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ABSTRACT

The purpose of a project was to develop a comprehensive distance learning system for undereducated adults not being served through traditional adult education classroom instruction. Odessa College (Texas) developed and implemented a televised delivery system for General Educational Development that complemented and supplemented existing adult education programs and could be incorporated into regular program operation without significantly increasing program costs. Activities included the formation of an advisory board, broadcast within a 40-mile radius of Odessa, publicity, student enrollment, and development of a project implementation manual. Project products were an enrollment form, student contact and support services forms, outline for plan to assist business/industry/agencies, sample questionnaire to verify contact hours, student response sheets, supplemental workbooks and exercises, and a project implementation guide. (Appendixes include the project products and other materials and correspondence. Attachments are comprised of sample questions to verify contact hours; student response sheets and questionnaires for contact hours for reading and science, social studies and writing, and math; and the supplemental guide for the math workbook.) (YLB)

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ED290842

FINAL REPORT

DISTANCE LEARNING PROGRAM
FOR
DELIVERY OF ADULT BASIC AND SECONDARY EDUCATION

PROGRAM YEAR 1986/1987

Funded by
The Division of Adult and
Community Education Programs
Texas Education Agency

John D. Tucker
Odessa College
Special Project Coordinator

CE049352

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Office of Educational Research and Improvement
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PROJECT BACKGROUND AND PURPOSE

Based on statistics provided by the Texas A & M State Data Center, approximately 3.5 million Texans are classified as undereducated, i.e. have not completed their public schooling. Free adult basic education classes in ABE, GED, and ESL have been provided to undereducated adults in Texas through a cooperative system since 1973, but the class settings often have remained inaccessible to individuals who reside in outlying areas or small communities where classes are not taught. Others are prevented from class participation because of distance, lack of transportation or child care, poor health, or conflicting work schedules. All of these adults continue to be excluded from participation in traditional adult education programs and therefore do not have an opportunity to acquire basic skills which might enable them to improve their standard of living.

Consequently, the Division of Adult and Community Education Programs of the Texas Education Agency funded this Special Project for Distance Learning for the 1986/1987 adult education program year. The purpose of this project was to develop a comprehensive distance learning system for undereducated adults who are not being served through traditional adult education classroom instruction. Odessa College was to develop and implement a televised delivery system for GED which complements and supplements existing adult education programs and can be incorporated into regular program operation without significantly increasing program operational costs. This was to be accomplished through identification and utilization of existing program resources, and through identification and utilization of available community resources in coordination with community-based institutions, agencies, organizations, industry, and business.

PROJECT OBJECTIVES - ACTIVITIES/ACCOMPLISHMENTS

(as submitted on quarterly reports)

Odessa College identified and accomplished eight (8) major operational objectives for the Adult Basic Education Special Project on Distance Learning. This was made possible by cooperative efforts from many individuals and organizations involved in the project. Each objective is addressed below, with information concerning the reasons for success.

OBJECTIVE 1: Form an advisory board.

Odessa College administrators and the ABE Local Advisory Board made recommendations for possible members to serve on the board. Letters of invitation, including a description of the project, were sent to 22 individuals experienced in program implementation, instruction and evaluation in the field of adult education, and representatives of various organizations, agencies and employers whose clients or employees could benefit from the program. The 17 people who accepted and served on the board represent:

Continuing Education administrators
ABE Directors (Odessa, Midland and Howard Colleges)
Instructional TV
KOCV-TV (PBS)
ABE lead instructor
Public school principal
Public school Special Services Director
Administrator from Medical Center Hospital (employer)
Personnel Director, El Paso Products (employer)
Probation officer
Counselor, Texas Rehabilitation Commission
Attorneys at Law
Chamber of Commerce

These members were very active in the program, responsive to program direction and implementation, and provided oversight, suggestions, and support with publicity and recruitment.

Advisory Board Meeting Dates and Topics:

10/21/86: Overview of ABE and GED on TV; Advisory Board Role; Timeline; Site Selection; Publicity Campaign.

12/17/86: Coordinator Report; Outline for Plan to Assist Business/Industry/Agencies; Recruitment; Public Speaking Presentations.

02/17/87: Coordinator Report; Conference Presentations; Input and Reports on Business/Industry/Agency Contacts.

04/21/87: Coordinator Report; Advisory Board Evaluation of Program to Date; Questionnaire for Future Program Efforts; Assignment of Tasks for Program Completion.

06/30/87: Final Meeting For Complete Report on Project; Recommendations for Future Programming; Recognition of Members for Service to the Project.

OBJECTIVE 2: Select Project Implementation Sites.

The KOCV-TV broadcast area covered Odessa, Midland, Andrews, Crane and other smaller sites within a forty mile radius of Odessa. Initially other sites in Odessa's cooperative region were to be selected, however, since they did not receive the KOCV broadcast and the cable companies did not carry a PBS station that offered GED on TV, it was decided that we would work with the areas that did. Tapes of GED on TV series were available at Crane ISD, Andrews ISD, Butz Community Education Center at Ft. Stockton, Midland College Learning Center, and Odessa College Library for participant convenience. Support staff at each site provided assistance to participants enrolled in the project. Tapes, workbooks and an instructor were provided for a classroom oriented program at the Alternative House in Odessa.

OBJECTIVE 3: Publicize the Project.

5000 flyers were prepared and distributed through schools, service agencies, churches, community agencies and posted in public access areas such as, laundromats, food stores, apartment complexes, employers and government buildings. Public Service Announcements were provided by all area radio and television stations. One TV station did a five minute presentation for the evening and night news broadcasts. Local newspapers did ads and feature articles. Presentations were given at numerous service clubs and community organizations including, Lions, Optimists, Rotary, Nurses Unlimited, Women and Children's Services, Permian Basin Personnel Association, Community Services Council of Odessa, and to managers of major department and food stores. The advisory board members distributed flyers and made presentations to their respective service clubs. A special report on the GED on TV program, including an interview with one graduate was presented by local TV stations following the annual ABE Recognition ceremony.

OBJECTIVE 4: Enroll Students.

Students who enrolled in the project were from Odessa, Midland, Crane, Andrews, McCamey, Penwell, Goldsmith, Wink and Denver City. Seven students co-enrolled in GED classes when they decided they could benefit from more personal assistance. Some of these students enrolled in classes once they saw they could return to learning as an enjoyable and rewarding experience. Nine students were referred to ABE classes and not enrolled in GED on TV because they were not at a level to be successful with the TV program. The publicity and the TV broadcast lessons have brought many students to ABE/GED classes that otherwise might not have come.

OBJECTIVE 5: Implement the Project:

The initial series broadcast began on 11/14/86, running two lessons per week with two repeats on the weekend, and ended on 4/5/87. The second series began on 4/6/87, running three lessons per week with one repeat on the weekend, and will end on 7/12/87. Classroom instruction at the Alternative House began in April and will consist of one lesson per week as other skills are taught the other class days. Counseling and assistance by telephone or site visitation were provided throughout the project. The project coordinator contacted each student a minimum of once per subject area by phone or letter to check on progress and to offer encouragement. Questionnaires (Attachments B,C,D) were developed and distributed to students to verify contact hours and to collect student responses to the project. The coordinator watched all of the tapes and took notes to use to assist the students with any questions or problems. Additionally, he worked every exercise in the workbooks and prepared supplemental exercises to assist those who desired additional preparation. A 21 page supplement to the math workbook (Attachment E) was developed giving more detailed explanations for the problems with step-by-step procedures for solving the more difficult exercises. This was done as a result of students calling for assistance and needing a full explanation immediately.

Program tapes were made available to public schools to enable parents of public school students to work on their GED preparation while their children are in class. Two students residing outside the broadcast area had relatives videotape the lessons and mail these to them for home study.

OBJECTIVE 6: Expand the Adult Education Delivery System.

Televised instruction in the homes within a forty mile radius of Odessa, tapes of the lessons and workbooks at Adult Learning Centers and libraries, public schools, and the Alternative House of Odessa have made GED instruction available to many adults who could not attend traditional classroom programs. Support staff at all these sites and the telephone assistance component contributed to a more positive learning situation. GED instructors had workbooks in their classrooms to assist any students who dropped in, as well as for providing supplemental material for their traditional students. Classroom instructors and calls from the public indicated that many people were watching the programs to enhance their classroom instruction, to get pointers for helping their high school children, and for general enjoyment.

OBJECTIVE 7: Develop and Produce a Project Implementation Manual.

All aspects and operations of the project were carefully documented as the project progressed. Input from the advisory board, students, and the adult education staff and instructors all contributed to the development of the manual. Those undertakings that proved successful or beneficial to the project have been incorporated into the manual. The findings and recommendations should allow prospective project operators to set up and execute a similar project with a minimum amount of difficulty and in a relatively short time. The manual addresses the following:

Development of a local operational plan
Advisory committee
Coordination with local, state and federal community-based institutions, agencies, and organizations
PBS stations and adult education delivery systems
Site selection
Publicity and recruitment
Support staff selection and training
Enrollment procedures
Record keeping and monitoring of project
Student contact for progress, motivation and assistance

OBJECTIVE 8: Prepare and Disseminate a Final Project Report

This final report is a result of careful monitoring of daily project operations and input from participants, advisory board and the adult education staff involved in the project. The report was prepared following the guidelines set forth in the project proposal as accepted by the Texas Education Agency. It is hoped that the dissemination of this report will generate interest from other adult learning providers to provide GED on TV instruction to adults in their service areas who could benefit from this non-traditional approach.

PROJECT PRODUCTS

ENROLLMENT FORM (see appendix, p. 18)

During preliminary planning sessions, it was decided that participants would be allowed to register by phone or in person. The Special Project staff also came to the conclusion that some form of assessment was necessary before students would be signed up for the GED on TV project. The cost of a formal testing instrument and the expense and time delay for mailing the forms were prohibitive in this project. The staff also realized that for many of the prospective participants, a "test" might be too threatening at the onset of their new experience in returning to the educational process. The enrollment form was developed from a similar instrument used by the Kentucky Educational TV to enroll and assess their prospective students. The questions on the form enabled the coordinator or other staff assisting with enrollment to do an informal assessment based upon the responses from the applicants. In several instances, the decision was made not to enroll, but to refer to ABE classes. For those on the borderline, further questions were asked and the applicants were advised that they could experience some degree of difficulty, but support staff would be available to assist them.

STUDENT CONTACT AND SUPPORT SERVICES FORM (see appendix, p. 19)

This form was developed to document all student contact hours and to note the reasons and outcome of the contact with the students. It is a very open form for recording comments, progress, and to maintain an ongoing monitoring system. With the exception of the statistical data, the form permits the staff to make any entries they feel are necessary.

OUTLINE FOR PLAN TO ASSIST BUSINESS/INDUSTRY/AGENCIES (see appendix, p. 22)

The project staff met with advisory board members representing business and industry to develop this plan for presenting the program to local businesses and/or agencies in an effort to get them to promote the project to their employees/clients. It also serves as an information sheet to communicate to them the ways the project can be developed at their places of operation to serve those adults needing to prepare for the GED. These forms were mailed to prospective sponsors and delivered at service clubs and agency meetings.

SAMPLE QUESTIONNAIRE FOR CONTACT HOUR VERIFICATION (Attachment A)

This questionnaire was developed to allow project operators to verify contact hours. The Texas Education Agency agreed that contact hours could be counted for viewing the televised lessons. This is one-half contact hour per lesson. There are a total of forty-one lessons. The questions are taken from the television programs and cannot be found in the workbooks. The project coordinator viewed all the tapes and selected five or six items that seemed to stand out in each lesson. Program operators can select two or more questions from each lesson to verify that the students watched the lesson. These can be mailed to the students or may be administered by telephone. When administered by telephone, it is suggested that at least three questions be included.

STUDENT RESPONSE SHEETS (Attachments B,C, D)

This is the form used by Odessa College to verify contact hours and to collect project operation comments and other information. The questions are taken from the "Sample Questionnaire". These were mailed to the students immediately following the completion of the subject matter covered on the questionnaire. In some instances, the information was collected by telephone, especially in the instances that the students did not return the questionnaire.

SUPPLEMENTAL GUIDE TO THE MATH WORKBOOK (Attachment E)

Based upon the experience of Odessa College's Special Project, it was found that many students and instructional/support staff could benefit from more detailed explanations of the exercises in the workbook. This became apparent when students would call for assistance and an immediate reply was needed. This supplement should save valuable time and provide a rapid response to any questions students may ask. It also provides more detailed steps to solving the more difficult problems. In some instances, more than one procedure has been given for reaching the correct solutions. Not all exercises are included as many are fully explained or are not too difficult.

SUPPLEMENTAL EXERCISES (Attachment F)

Many students expressed a need for additional exercises to allow them to more fully comprehend or master the subject matter being presented. The topics selected and included in the supplemental exercises came from student requests for assistance, input from adult education instructors, and the review of the material by the project coordinator. Major areas covered are math and interpretation of charts and graphs.

PROJECT IMPLEMENTATION GUIDE (Attachment G)

One of the objectives of the project was to develop and disseminate a guide that would aid entities that choose to implement the GED on TV program.

The guide was developed with input from the advisory board, students, adult education administrators, and instructors. Those undertakings that proved successful or beneficial to the project have been included. The findings and recommendations should allow prospective program operators to set up and execute a similar program without having to "re-invent" the wheel. The topics covered are listed under Objective 7 in this report.

PROJECT EVALUATION

The total impact of the Special Project, GED on TV, will probably never be accurately measured. This evaluation covers only those students who enrolled and actively participated. Reference has been made to those who were referred to ABE classes and to those who were in classes and used the televised lessons to enhance their classroom learning experience. After the KOCV-TV project station began the broadcasts of the lessons, it was learned that a cable station, The Learning Channel, was also presenting the GED on TV series. Their broadcasts informed the viewers that books were available at major bookstores and gave a toll-free number for books or more information. It is not known how many adults are pursuing their GED preparation without enrolling in the project. As indicated in the previous section of this report, the project objectives and activities were all successfully met. Odessa College purchased a set of tapes, enabling the college to repeat the entire series and to keep enrollment open for students to begin at any time. The tapes were also available at various sites in the Special Project area for students who wished to utilize them for review, or to progress at their own pace, not depending upon the TV broadcast times. Additionally, the students who initially enrolled and had their studies interrupted were able to continue by viewing the second series or visiting the tape sites. Many of the students currently enrolled will not finish their studies until July or August.

Follow-up information was taken on those students enrolled in time to have completed their studies prior to the writing of this report. The statistical report was compiled from information from all enrollees, including those who left the program, those who successfully completed their goals, and those continuing. 70% of the participants enrolled for the first series (11/14/86); 17% began in January; 13% started the second series (4/6/87). Five students began the second series because of recommendations from their relatives or friends who participated in the first series. Of the first two groups to enroll, 52% were very actively involved and 26% to a lesser degree. This active participation slowed somewhat after the first of the year. Two students experienced major health problems, two had severe family problems, eight were called back to work or had their work schedules changed, and one married a musician and is on the road most of the time. All of these have indicated they will continue to work at the GED on TV as their schedule allows. 29% of those who successfully completed their studies passed the GED exams. Seven students participated in the annual ABE Recognition Ceremony at Odessa College. One student, a naturalized citizen, enrolled in the program to work on her grammar as she needed this to improve her written communication skills at work. Additional students have begun testing but have not finished at the time of this report. The only way contact hours can be traditionally generated is through personal instructor/student contact. The Texas Education Agency agreed that one-half hour contact credit could be generated for each televised lesson, provided some means for verification could be devised. The Student Questionnaire developed by the project coordinator was used to verify contact hours. Hours spent tutoring or assisting participants could be counted only through personal contact. Telephone assistance was not counted. 293 contact hours were generated through the questionnaire and 49 hours through peronal tutoring for a total of 342 hours.

A one page summary of statistical data is located in the appendix, page 17. The categories covered are those essential to most ABE reporting requirements. Entry level skills were not assessed by a formal instrument for reasons explained in the section on Project Products. It should be noted that questions and problems came from students from all grade levels. The most time was spent with those below 10th grade level. Exit level skills cannot be measured for all, only those successfully completing the GED exams.

Follow-up with students who completed the series, passed the test and/or have begun testing indicates four will be able to apply for employment now that they will have the GED requirements met. One student stated that the completion will now allow her to work for a promotion. Five students have professed a desire to begin further academic studies and one will begin procedures for preparing for a cosmetology license.

Information collected from students who left the program indicates the following:

Began working full time/schedule conflict: seven (four said would try later)

Moved from Project area: five

Married musician and on the road all the time: one

Marital problems/separated: two

Severe family difficulties: two (one said will continue work in books)

Too difficult/could not keep up: three (two enrolled in classes)

Could not contact: five

The program has proven cost effective due to the participation by agencies, organizations, institutions, support services and staff, and instructors trained and working with the program participants. Project sites including support staff, tapes, materials and instruction are:

Midland College Adult Learning Center
Butz Community Education Center, Ft. Stockton
Crane Independent School District
Andrews Independent School District
The Alternative House, Odessa
Odessa College ABE/GED classes
Odessa College Learning Resource Center

Support services include:

Assistance and instruction by telephone
Personal tutoring for drop-ins
Referral for other educational and community resources
Supplemental exercises
Para-professional counseling for academic areas
Financial assistance for workbook purchases

Three in-service training workshops were conducted by the project coordinator; one in Ft. Stockton with 13 participants; one at Odessa College with 12 participants; and one at Midland College with nine participants. Instructional staff that are working with the program participants number seven at four locations.

PROJECT SUMMARY

The need and acceptance for the 1986/1987 Special Project for Distance Learning became evident even prior to the opening of the advertised registration period. Telephone calls began coming in immediately following the radio, TV, and newspaper publicity. Hundreds of calls were logged the first three days and only slowed slightly by the end of the week. The inquiries were made by prospective students, spouses, parents, agencies, neighbors and friends, employers and young adults whose parent(s) had not completed public school. They were all enthusiastic and eager to begin. Those who were hesitant at first because of their real or perceived lack of ability to achieve without instructional assistance were pleased to hear of the assistance by telephone or drop-in.

There were three primary reasons that all those hundreds of adults did not enroll in the project. First, the extreme economic situation in the Permian Basin placed the cost for the workbooks out of reach of many. Two agencies provided books for their clients and donations from an individual provided books for another student who could not afford them. Second, many of the inquiries came from outside the viewing area or tape sites. Two students had relatives videotape the lessons and mail the cassettes to them. Third, the personal interview indicated that the applicant was not at a level of competence to perform successfully through this project. These applicants were referred to the ABE or ESL programs near them. This project has shown that offering GED instruction by television will not decrease the number of students for the ABE/GED programs, nor will it cause students to drop out of the classes and opt for TV instruction. It has done just the opposite. GED on TV students have enrolled in classes, many who called about the TV program but were not at a level to benefit from the TV instructional program were referred to ABE and enrolled, callers from outside the viewing area were referred to classes near them. Many had never known the classes were available. Television and radio coverage of the project and interviews with "graduates" brought more interest to the entire ABE program. Others who enrolled in traditional classes did so only after viewing some of the TV lessons and realizing that studying for the GED was not as difficult as they had imagined. It is impossible to know exactly how many students have come to regular programs because of the visibility of the GED on TV, but we know that it has increased our enrollment as well as serving those who could not participate in the traditional setting.

Based upon all the observations, participation by students, agencies/institutions, and adult educators in the project area, and the interest generated by this initial endeavor with televised GED instruction, all indications are that this non-traditional approach is a viable mechanism for reaching those adults who cannot participate in the regular programs. New approaches need to be taken to ensure that the program can be expanded into those areas "outside" the reaches of PBS stations. The success of this project and the findings of the project staff open up some very exciting possibilities for expanding the ABE delivery system into areas that were previously inaccessible to our programs.

APPENDIX

Statistical Report
Student Registration Form
Student Monitoring Sheet (Blank)
Student Monitoring Sheet (Sample I)
Student Monitoring Sheet (Sample II)
Outline for Plan to Assist Business/Industry/Agencies
Calendars for Televised Lessons
Letter of Invitation To Serve on Project Advisory Board
Letter and Questionnaire for Publicity and Broadcast Times
Letter to Churches/Clubs/Organizations
Radio PSA (30 seconds)
Newspaper Articles
Letter to Permian Basin Personnel Association
In-Service Workshop Announcement
Flyer for Second Program Broadcast

ODESSA COLLEGE

ADULT BASIC EDUCATION
SPECIAL PROJECT 1986/1987 - GED ON TV
STATISTICAL REPORT

TYPICAL STUDENTS: FEMALE - White, married, unemployed, 11th grade, age 31, children at home.

MALE - White, married, employed, 10th/11th grade, age 29, children at home.

***** ***** ***** ***** ***** ***** ***** *****

CATEGORY		FEMALE	MALE	AVERAGE
ENROLLMENT:		68%	32%	100%
GRADE LEVEL:	Below 9th	22%	18%	21%
	9th	22%	12%	19%
	10th	25%	35%	28%
	11th	31%	35%	32%
MARITAL STATUS:	SINGLE	14%	18%	15%
	MARRIED	78%	82%	79%
	DIVORCED	8%	--	6%
ETHNIC:	WHITE	64%	82%	70%
	HISPANIC	36%	18%	30%
EMPLOYMENT:	EMPLOYED	19%	82%	40%
	UNEMPLOYED	81%	18%	60%
AGE RANGE:		17-67	16-50	16-67
AVERAGE AGE:		31.3	29.2	30.6

79% of enrollees are from Odessa/Midland metro area.
21% come from smaller cities in TV reception area.

55% found out about the program through the newspaper.
23% found out through friends, family members or employer.
22% found out through TV, radio, flyers, church, agency or other.

75% returned the 1st questionnaire
48% returned the 2nd questionnaire
342 contact hours were verified; 293 from questionnaire; 49 from tutoring.

GED ON TV has helped increase class enrollments as many were not at a level to be successful with the TV program alone. Several are in TV and classroom. Many who called from outside the viewing area were referred to classes near them. A large number of classroom students are viewing the TV lessons for additional help.

Response from the students was very positive. However, there was a hesitancy to test even with encouragement. 11 of the initial 37 enrollees have passed the test and several have taken part of the battery. The staff will continue to monitor and encourage students to test.

GED ON TV

STUDENT REGISTRATION FORM

ODESSA COLLEGE, ADULT BASIC EDUCATION, 201 WEST UNIVERSITY, ODESSA, TEXAS 79764 915-335-640

NAME ______________________________

ADDRESS ______________________________

CITY, ZIP ______________________________

PHONE (HOME) ______________ (WORK) ______________

SOCIAL SECURITY # ______________ LAST GRADE COMPLETED ______

MALE _____ FEMALE ____ MARITAL STATUS _(S)___ (M)____ (D)___

DATE OF BIRTH ______________ EMPLOYED (Y)____ (N)_____

______ WHITE(1) ____ BLACK(2) _____ HISPANIC(3) ______ ASIAN(4)

______ NATIVE AMERICAN(5) __________ OTHER( ) ________ NONRESIDENT(6)

++

Where did you hear about our Study at Home Program?

TV___ PBS___ RADIO___ NEWSP.___ POSTER___ FLYER___ PERSON___ OTHER ______________

Next, I need to get your opinion of your reading and math abilities. To do that, I will read some statements. Listen carefully and think about THE WAY YOU READ and when I finish, tell me which statement fits you best.

______ 1) I enjoy reading and read often............................(O.K.)

______ 2) I read only necessary things with no difficulty...........(O.K.)

______ 3) I have to read something several times to understand it...(Get more info)

______ 4) I read only necessary items and find them difficult.......(No)

______ 5) I can read very little or not at all......................(NO)

Next, I have a list of math skills. After I read each one, tell me if you can do it, or if you don't know how (N). If you used to be able (U), I need to know that also.

Y N U

___ ___ ___ 1) Add and subtract whole numbers.....................(MUST)

___ ___ ___ 2) Multiply & divide whole numbers....................(MUST)

___ ___ ___ 3) Add, subtract,multiply, divide fractions...........(GET MORE INFO)

___ ___ ___ 4) Add, subtract, multiply, divide decimals...........(GOOD)

___ ___ ___ 5) Work percent problems..............................(GOOD)

COMMENTS: ______________________________

____

____

DATE ______________ LOCATION ______________ SIGNATURE OF REGISTRAR ______________

GED ON TV

STUDENT MONITORING SHEET

NAME:______________________________ DATE ENROLLED:____________

ADDRESS:______________________________ TELEPHONE:____________

BEST TIME TO CONTACT:______________________________

1st questionnaire: Date sent________ Date returned________ Contact hours______
2nd questionnaire: Date sent________ Date returned________ Contact hours______
3rd questionnaire: Date sent________ Date returned________ Contact hours______

Practice tests: Reading____ Science____ Soc. Studies____ Writing____ Math____

GED Tests: Reading: Date:______ Passed____ Failed____ Score____
Science: Date:______ Passed____ Failed____ Score____
Social Studies: Date______ Passed____ Failed____ Score____
Writing: Date:______ Passed____ Failed____ Score____
Math: Date:______ Passed____ Failed____ Score____

Copy of test results on file: Yes____ No____

MONITORING NOTES:______________________________

SAMPLE

Contact hrs:
Questionnaire 15½
tutoring 5½
Total [21 h.

GED ON TV

STUDENT MONITORING SHEET

NAME: Henry WORKSALOT DATE ENROLLED: 11-8-86
ADDRESS: 1234 His House MIDLAND 79701 TELEPHONE: (xxx) xxx-xxx
BEST TIME TO CONTACT: After 6 p.m.

1st questionnaire: Date sent 12/8/86 Date returned 1/6/87 Contact hours 4
2nd questionnaire: Date sent 2/5/87 Date returned LOST IT Did by Phone Contact hours 6
3rd questionnaire: Date sent 4/6/87 Date returned 4/10/87 Contact hours 5½

Practice tests: Reading No Science Yes Soc. Studies No Writing No Math No

GED Tests: Reading: Date: 1/9/87 Passed ✓ Failed ___ Score 40
Science: Date: 1/9/87 Passed ___ Failed X Score 33 ← SCIENCE RE TEST 4/10/8 Passed - 42
Social Studies: Date 1/9/87 Passed ✓ Failed ___ Score 41
Writing: Date: /10/87 Passed ✓ Failed ___ Score 40
Math: Date: 4/10/87 Passed ✓ Failed ___ Score 47

Copy of test results on file: Yes ✓ No ___

MONITORING NOTES: WORKS IN DALLAS Sun-Thur: Only Home Fridays: Will View tapes at library Fridays; 12/5/86 I called to check on progress - He had missed lessons 2,4,6 Would come to library later today. He dropped into office at 4.30 with questions on graphs I gave him supplemental GED worksheet on charts/graphs. (½ hr tutor)

2/20/87 - Had not received 2nd Questionnaire - I called him to check - Had lost it so I discussed the lessons on phone asked him questions - He could not answer three of them because he had not seen the tapes. He also told me he had failed his Science test - came to office p.m. I worked with him 3 hours on GED Practice Science Test explaining parts he missed and why (was having trouble putting items in order/sequence)

3/6/87 - He called with problems on ratio/proportion (lesson 8 Math) - Came in for help 2:30-4:30 pm:

4/10/87 - 4:30 - came over to say he had passed Writing, Math and retest on Science Cannot be in ABE Recognition ceremony - moving to Dallas 5/1/87

SAMPLE

Contact Hours.
Questionnaire 19½
· Tutoring 4
Total 23½

GED ON TV

STUDENT MONITORING SHEET

NAME: GEORGIA STUDYHARD DATE ENROLLED: 11-10-86
ADDRESS: 2010 PINE ODESSA 79762 TELEPHONE: (XXX) XXX-XXXX
BEST TIME TO CONTACT: BETWEEN 1 PM - 4:30 PM

1st questionnaire: Date sent 12/8/86 Date returned 1/4/87 Contact hours 5
2nd questionnaire: Date sent 2/5/87 Date returned 2/10/87 Contact hours 7½
3rd questionnaire: Date sent 4/6/87 Date returned 4/10/87 Contact hours 7

Practice tests: Reading No Science No Soc. Studies No Writing Yes Math Yes

GED Tests: Reading: Date: 1/9/87 Passed ✓ Failed ___ Score 43
Science: Date: 1/9/87 Passed ✓ Failed ___ Score 41
Social Studies: Date 1/9/87 Passed ✓ Failed ___ Score 47
Writing: Date: 1/9/87 Passed ✓ Failed ___ Score 42
Math: Date: 4/10/87 Passed ✓ Failed ___ Score 45

Copy of test results on file: Yes ✓ No ___

MONITORING NOTES: 12/2/86 – came to office for help with Reading lesson 5 – (Graphs) We used newspaper graphs to show common graphs – worked 1 hour tutoring –

12/9/86: Called for assistance with page 81 – Science lesson: explained exercise – gave more examples – she understood exercise.

1/8/86: Called – will test 1-9-86 – worried about test – I told her to relax, do not try to study all night – briefly review terminology in workbook – do something fun tonight but get plenty of rest. I explained how GED exams are conducted; basic format of test

1/9/86 – Called to let me know she passed tests – very excited!

2/3/86 – ran into her at library – she was reviewing tape of lesson she missed.

4/6/86 – Called for appt to review Algebra/Geometry – Tutored 3 hours on blackboard

4/10/86 Called to say passed last 2 tests – very happy – wants to be in ABE Recognition ceremony. Has referred 2 friends to program

Note: Books provided by Women's Aid Center Georgia could not afford them.

OUTLINE FOR PLAN TO ASSIST BUSINESS/INDUSTRY/AGENCIES TO ESTABLISH "GED ON TV" PROGRAM AT THEIR SITES

I. Identify those employees/clients who have not completed high school.

II. Visit with those employees/clients about how your company/agency is interested in helping them obtain their GED. You may invite Odessa College's Special Project staff to explain the GED ON TV series and to assist with enrollment. Explain that the program is voluntary, but offer some incentive to get them to participate...(some companies such as Wal-Mart, elect to reimburse book and testing fees for those who successfully complete the program. Others elect to purchase books and pay fees for all who enroll.) The book cost is approximately $19 and the GED test fee is $17.

III. Provide workroom or classroom for those who plan to participate at your site. Employees/clients may choose to work on their own at home or another location. You need to consider the broadcast times to see if it is feasible to hold at your site.

IV. Provide for on-going instructional assistance and support through the following:

   A. Designate someone from your organization to be trained by Odessa College. Training requires from 2 to 3 hours. Set up a schedule for the support person to be available.

   B. If necessary, contact Odessa College's Adult Basic Education to provide an instructor to assist with participants' questions/problems.

   C. Encourage participants to visit existing Adult Learning Sites or classes to receive assistance.

   D. Establish a schedule for "in-house" group meetings every two to three weeks to review progress and address any concerns.

V. For on-site classes, we suggest the use of video tapes of the lessons which can be provided at cost through Odessa College. This will allow participants more flexibility in viewing or reviewing the lessons, and will allow those who join the program after it starts to study on their own schedule. There are 41 lessons of one-half hour duration each.

These are only suggestions. Specifics can be worked out to meet your needs by contacting the Odessa College Special Project staff. We are seeking innovative approaches that will enable the greatest number of adults needing this service to participate. Please feel free to contact us. Remember that you are under no obligation. Odessa College is here to serve you, and by working together, we can increase the number of GED recipients in West Texas.

ODESSA COLLEGE, ADULT BASIC EDUCATION
SPECIAL PROJECT FOR DISTANCE LEARNING
201 WEST UNIVERSITY
ODESSA, TEXAS 79764
915-335-6401

Dr. Gayle Noll	Dr. Maija Wimer	John Tucker
Dean, Continuing Education	Director, Adult Basic Education	Coordinator

ODESSA COLLEGE, ADULT BASIC EDUCATION, 201 WEST UNIVERSITY, ODESSA, TEXAS 79764, 915-335-6401

Reading

GED ON TV

MONTH: NOVEMBER, 1986

SUN	MON	TUE	WED	THUR	FRI	SAT
2	3	4	5	6	7	8
9	10	11	12	13	14 LESSON 1 3:30-4:00	15
16 LESSON 2 3:00-3:30	17	18	19	20	21 LESSON 3 3:30-4:00	22
23 LESSON 4 3:00-3:30	24	25	26	27	28 LESSON 5 3:30-4:00	29
30 LESSON 6 3:00-3:30						

MONTH: DECEMBER, 1986

SUN	MON	TUE	WED	THUR	FRI	SAT
	1	2	3	4	5 LESSON 7 3:30-4:00	6
7 LESSON 8 3:00-3:30	8	9	10	11	12 LESSON 9 3:30-4:00	13
14 LESSON 10 3:00-3:30	15	16	17	18	19 LESSON 11 3:30-4:00	20
21 LESSON 12 3:00-3:30	22	23	24	25	26 LESSON 13 3:30-4:00	27
28 LESSON 14 3:00-3:30	29	30	31			

MONTH: JANUARY, 1987

SUN	MON	TUE	WED	THUR	FRI	SAT
				1	2 LESSON 15 3:30-4:00	3
4 LESSON 16 3:00-3:30	5	6	7	8	9	10

ODESSA COLLEGE, ADULT BASIC EDUCATION, 201 WEST UNIVERSITY, ODESSA, TX. 79764, 915-335-6401

GED ON TV

MONTH: JANUARY, 1987

SUN	MON	TUE	WED	THUR	FRI	SAT
				1	2	3
4	5 WRITING LESSON 1 11:00 -11:30p.m.	6	7 WRITING LESSON 2 11:00-11:30 p.m.	8	9 WRITING 1* 11:00-11:30 p.m.	10 WRITING 1 9:00-9:30 a.m. WRITING 2 9:30-10:00 a.m.
11 WRITING 1* 2:00-2:30 p.m. WRITING 2* 2:30-3:00 p.m.	12 WRITING LESSON 3 11:00-11:30 p.m.	13	14 WRITING LESSON 4 11:00-11:30 p.m.	15	16 WRITING 4* 11:00-11:30 p.m.	17 WRITING 3 9:00-9:30 a.m. WRITING 4 9:30-10:00 a.m.
18 WRITING 3* 2:00-2:30 p.m. WRITING 4* 2:30-3:00 p.m.	19 WRITING LESSON 5 11:00-11:30 p.m.	20	21 WRITING LESSON 6 11:00-11:30 p.m.	22	23 WRITING 5* 11:00-11:30 p.m.	24 WRITING 5 9:00-9:30 a.m. WRITING 6 9:30-10:00 a.m.
25 WRITING 5* 2:00-2:30 p.m. WRITING 6* 2:30-3:00 p.m.	26 WRITING LESSON 7 11:00-11:30 p.m.	27	28 WRITING LESSON 8 11:00-11:30 p.m.	29	30 WRITING 8* 11:00-11:30 p.m.	31 WRITING 7 9:00-9:30 a.m. WRITING 8 9:30-10:00 a.m.

MONTH: FEBRUARY, 1987

SUN	MON	TUE	WED	THUR	FRI	SAT
1 WRITING 7* 2:00-2:30 p.m. WRITING 8* 2:30-3:00 p.m.	2 WRITING LESSON 9 11:00-11:30 p.m.	3	4 WRITING LESSON 10 11:00-11:30 p.m.	5	6 WRITING 9* 11:00-11:30 p.m.	7 WRITING 9 9:00-9:30 a.m. WRITING 10 9:30-10:00 a.m.
8 WRITING 9* 2:00-2:30 p.m. WRITING 10* 2:30-3:00 p.m.	9 MATH LESSON 1 11:00-11:30 p.m.	10	11 MATH LESSON 2 11:00-11:30 p.m.	12	13 MATH 1* 11:00-11:30 p.m.	14 MATH 1 9:00-9:30 a.m. MATH 2 9:30-10:00 a.m.
15 MATH 1* 2:00-2:30 p.m. MATH 2* 2:30-3:00 p.m.	16 MATH LESSON 3 11:00-11:30 p.m.	17	18 MATH LESSON 4 11:00-11:30 p.m.	19	20 MATH 4* 11:00-11:30 p.m.	21 MATH 3 9:00-9:30 a.m. MATH 4 9:30-10:00 a.m.
22 MATH 3* 2:00-2:30 p.m. MATH 4* 2:30-3:00 p.m.	23 MATH LESSON 5 11:00-11:30 p.m.	24	25 MATH LESSON 6 11:00-11:30 p.m.	26	27 MATH 5* 11:00-11:30 p.m.	28 MATH 5 9:00-9:30 a.m. MATH 6 9:30-10:00 a.m.

ODESSA COLLEGE, ADULT BASIC EDUCATION, 201 WEST UNIVERSITY, ODESSA, TX. 79764, (915) 335-6401

GED ON TV GED ON TV

APRIL 1987
Month and Year

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
5	6 READING 1 11:00-11:30 P.M.	7	8 READING 2 11:00-11:30 P.M.	9	10 READING 3 11:00-11:30 P.M.	11
12 READING 1 2:00-2:30 P.M. READING 2 2:30-3:00 P.M. READING 3 3:00-3:30 P.M.	13 READING 4 11:00-11:30 P.M.	14	15 READING 5 11:00-11:30 P.M.	16	17 READING IN SCIENCE 1 11:00-11:30 P.M.	18
19 READING 4 2:00-2:30 P.M. READING 5 2:30-3:00 P.M. SCIENCE 1 3:00-3:30 P.M.	20 READING IN SCIENCE 2 11:00-11:30 P.M.	21	22 READING IN SCIENCE 3 11:00-11:30 P.M.	23	24 READING IN SCIENCE 4 11:00-11:30 P.M.	25
26 SCIENCE 2 2:00-2:30 P.M. SCIENCE 3 2:30-3:00 P.M. SCIENCE 4 3:00-3:30 P.M.	27 READING IN SCIENCE 5 11:00-11:30 P.M.	28	29 READING IN SCIENCE 6 11:00-11:30 P.M.	30		

MAY 1987
Month and Year

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 READING IN SOCIAL STUDIES 1 11:00-11:30 P.M.	2
3 SCIENCE 5 2:00-2:30 P.M. SCIENCE 6 2:30-3:00 P.M. SOCIAL STUDIES 1 3:00-3:30 P.M.	4 READING IN SOCIAL STUDIES 2 11:00-11:30 P.M.	5	6 READING IN SOCIAL STUDIES 3 11:00-11:30 P.M.	7	8 READING IN SOCIAL STUDIES 4 11:00-11:30 P.M.	9
10 SOCIAL STUDIES 2 1:30-2:00 P.M. SOCIAL STUDIES 3 2:00-2:30 P.M. SOCIAL STUDIES 4 2:30-3:00 P.M.	11 READING IN SOCIAL STUDIES 5 11:00-11:30 P.M.	12	13 WRITING 1 11:00-11:30 P.M.	14	15 WRITING 2 11:00-11:30 P.M.	16
17 SOCIAL STUDIES 5 1:30-2:00 P.M. WRITING 1 2:00-2:30 P.M. WRITING 2 2:30-3:00 P.M.	18 WRITING 3 11:00-11:30 P.M.	19	20 WRITING 4 11:00-11:30 P.M.	21	22 WRITING 5 11:00-11:30 P.M.	23
24 WRITING 3 1:30-2:00 P.M. WRITING 4 2:00-2:30 P.M. WRITING 5 2:30-3:00 P.M.	25 WRITING 6 11:00-11:30 P.M.	26	27 WRITING 7 11:00-11:30 P.M.	28	29 WRITING 8 11:00-11:30 P.M.	30
31 WRITING 6 1:30-2:00 P.M. WRITING 7 2:00-2:30 P.M. WRITING 8 [illegible]						

LETTER OF INVITATION TO SERVE ON PROJECT ADVISORY BOARD

ODESSA
COLLEGE

(915) 335-6400
201 W. University
Odessa, Texas 79764

October 15, 1987

Dear

Odessa College has received funding for an Adult Basic Education Special Project titled "Distance Learning". The College and Special Project staff are very excited about the opportunities this program will afford to those members of the population that were unable to take advantage of traditional programs in the past. We have enclosed basic information on the project for your review.

The formation of an advisory board is necessary for the project implementation. We would like to extend an invitation for you to serve on the board to be comprised of representatives from education, community-based organizations, agencies, and business and industry. The first meeting will be held on Tuesday, October 21 from 4 P.M. to 5 P.M. in the Seminar Room of Annex B at Odessa College. A map is attached for reference.

We look forward to hearing from you and having you join us in this important undertaking. I will be out of town Wednesday, October 15 through Friday, October 17, but you may call my secretary at 335-6578 to indicate if you are able to serve.

Thank you in advance for your consideration to this endeavor.

Sincerely,

Maija Wimer, Director
Adult Basic Education

enclosures

LETTER TO ADVISORY BOARD MEMBERS / QUESTIONNAIRE ON PUBLICITY

ODESSA COLLEGE

(915) 335-6400
201 W. University
Odessa, Texas 79764

I would like to thank you for your commitment to the 1986/87 Adult Basic Education Special Project for Distance Learning. At the first meeting of the advisory board, we established three major roles for the board members:

1. Input and assistance with the publicity
2. Input and assistance with the program implementation
3. Input and assistance with the final project evaluation

At this time, we are requesting your assistance with the initial publicity. As you are aware, the first lesson will be broadcast on Friday, November 14 at 3:30 p.m. over KOCV-TV. There will be one lesson each Friday at 3:30 and Sunday at 3:00 through January 4. If you will check your response(s) to the attached questionnaires and return them to me NO LATER THAN FRIDAY, OCTOBER 31, it will be greatly appreciated. I realize this is short notice, but we need to get this going. Once you have indicated your choice(s), I will supply you with the materials or information needed to accomplish your task.

I have enclosed a copy of the minutes of the first meeting, indicating a change in the subject area to be presented. We have changed the reading section to November as it was felt the students should have the least difficult subject first. I have also included a copy of the exact schedule for the reading series.

Again, thank you for joining us in this important project to serve the educational needs of that segment of the population that has previously been unable to participate in our programs.

Respectfully yours,

John D. Tucker
Special Project Coordinator

enclosures

ODESSA COLLEGE
ADULT BASIC EDUCATION
SPECIAL PROJECT FOR DISTANCE LEARNING
201 WEST UNIVERSITY
ODESSA, TEXAS 79764
915-335-6401

QUESTIONNAIRE

TO: ADVISORY BOARD MEMBERS
FROM: JOHN D. TUCKER, SPECIAL PROJECT COORDINATOR
RE: QUESTIONNAIRE FOR ASSISTANCE WITH PUBLICITY

Please check your response(s) to the areas listed below, indicating which type of assistance you can lend to the project publicity. Due to the time line for the project, I need the completed form in my office NO LATER THAN FRIDAY, OCTOBER 31. You may call the information to me or to Nancy Cooper, Secretary for Adult Basic Education, at the above telephone number if there is a problem with the timing. Thank you for your cooperation and timely response.

I will assist the publicity efforts in the following:

____1. Distribution of flyers. Number I will need:__________

____2. Distribution/Display of posters. Number I will need:________

____3. Insert information in newsletters/bulletins/paycheck envelopes.

____4. Supply information to service clubs/organizations of which I am a member. Name of organization(s):______________________________

____5. Other:______________________________

Suggestions for publicity efforts:______________________________

Name:______________________________

Title:______________________________

Business Mailing Address:______________________________

Business Telephone Number:______________________________

QUESTIONNAIRE II

Please respond to the choices below for most appropriate times for the telecast of the GED ON TV series for the period of January 5, 1987 through March of 1987. There are three time slots available for the primary broadcast of each lesson and four for the repeat showings. Please mark in order of preference with (1) for top choice, (2) for second, etc.. Thank you.

PRIMARY SHOWING:

Mon., Wed., and Fri. 7:15 - 7:45 A.M. __________
Mon., Wed., and Fri. 3:30 - 4:00 P.M. __________
Mon., Wed., and Fri. 11:00 - 11:30 P.M. __________

REPEATS:

Sat. 9:00 - 10:30 A.M. __________
Sat. 12:30 - 2:00 P.M. __________
Sun. 2:00 - 3:30 P.M. __________
Sun. 3:00 - 4:30 P.M. __________

LETTER TO CHURCHES, CLUBS, ORGANIZATIONS REQUESTING ASSISTANCE

ODESSA
COLLEGE

(915) 335-6400
201 W. University
Odessa, Texas 79764

November 5, 1986

Odessa and Permian Basin adults who have not finished their high school education now have an alternative method of preparing for their GED exams. Odessa College's Adult Basic Education Division is starting a Special Project For Distance Learning to provide GED instruction via television. This will be beneficial to those adults who cannot attend regular classes due to transportation, child care, or work schedule conflicts. They will now have the opportunity to study at home.

The GED ON TV program will begin on Friday, November 14, when KOCV-TV will broadcast the first lesson in the Reading Series. There will be two half hour lessons per week shown on Fridays from 3:30 to 4:00 p.m., and on Sundays from 3:00 to 3:30 p.m. The Reading Series will end on January 4, 1987, to be followed by Writing and Math. Special workbooks that accompany the TV lessons are available through the project staff. Instructional assistance will be available from staff and instructors throughout the area. Adults who wish to enroll in the program should call the Special Project Office at 335-6401.

We would like to request your assistance in reaching those adults who could benefit from the program. If you could include the basic information in your bulletins and announce it during your services, it would be greatly appreciated. We want to reach as many potential participants as possible in the short time remaining before the starting date.

Thank you very much for your cooperation. If you have any questions, please contact me at the above number.

Sincerely yours,

John D. Tucker
Special Project Coordinator

ODESSA COLLEGE **News**
(915) 335-6431 · 201 W. University · Odessa, Texas 79764

Retha Lindsey
Director of News and Information

:30 Radio PSA

Odessa College

G.E.D. on TV

Run now through May 15, 1987

IF YOU'RE AN ADULT WHO HASN'T FINISHED HIGH SCHOOL...YOU'RE NOT ALONE...SEVENTY-TWO MILLION AMERICANS ARE IN THE SAME BOAT...BUT YOU NOW HAVE THE OPPORTUNITY TO STUDY FOR YOUR G.E.D. EXAM BY WATCHING TELEVISION...THAT'S RIGHT...G.E.D. ON TV NOW BRINGS THESE CLASSES RIGHT INTO YOUR HOME...FOR MORE INFORMATION ON THIS NEW PROGRAM CALL ODESSA COLLEGE'S ADULT BASIC EDUCATION AT 335-6401...335-6401.

(An Equal Opportunity College)

Odessa American 11-9-86

OC to offer televised GED course

The American

Odessa College will give Permian Basin residents the opportunity to study for their GED exam by television starting Friday with a reading segment.

Forty-one television lessons will be broadcast over OC's KOCV-TV/Channel 36. This offers viewers the opportunity to earn a high school equivalency certificate. Students can use workbooks available through the special project staff of OC's Adult Basic Education.

John Tucker, special project coordinator, said the "GED ON TV" alternative especially will help those who are homebound or whose work schedules conflict with regular classes.

The course consists of two lessons per week, one at 3:30-4 p.m. Fridays and another at 3-3:30 p.m. Sundays.

National figures show that 34 percent or 72 million American adults 25 or over have not completed 12th grade, Tucker said.

Persons who wish to enroll in the "GED ON TV" series need to contact OC's Adult Basic Education at 335-6401.

Odessa American 12-14-86

Televised GED classes repeat

Odessa College's televised GED course, "GED ON TV," will repeat the reading, science and social studies series Monday through Jan. 4.

Writing and math skills units also will be added to the schedule in early 1987. Two lessons a week will be aired beginning Jan. 5. One lesson will be aired at 11 p.m. Mondays and the other at 11 p.m. Wednesdays. Repeats will be shown at 9 to 10 a.m. Saturdays and again at 2 to 3 p.m. Sundays. The entire series will end April 5.

Enrollment is on-going and students may begin any time. This alternative method of preparing for the GED exam is especially geared toward the homebound or those whose work schedules conflict with regular classes. Students desiring classroom preparation for the GED exam may register for GED classes.

Workbooks can be obtained through the special project staff at the Adult Basic Education Annex A office, located across the street from the OC main campus.

For more information, call OC Adult Basic Education, 335-6401.

"GED on TV" Off to Good Start

Odessa College's "GED on TV," an innovative concept in telecourse instruction, gives Permian Basin residents the opportunity to study for their GED exam by television.

"GED on TV," an alternative method of preparing for the GED exam, is especially geared towards the homebound or those whose work schedules conflict with regular classes. Initiated in the fall semester, the course has already met with enthusiastic response from the 46 students who have taken the course.

To round out the curriculum, writing and math skill units were added to the schedule in early 1987. Two lessons a week are aired over Odessa College's KOCV-TV/Channel 36. One Lesson airs at 11 p.m. Mondays and the other at 11 p.m. Wednesdays. Repeats will be shown at 9 - 10 a.m. Saturdays and again at 2 - 3 p.m. Sundays. The entire series will end April 5.

Enrollment is on-going and students may begin any time. Workbooks can be obtained through the special project staff at the Adult Basic Education Annex A office, located across the street from the OC main campus.

Students desiring classroom preparation for the GED exam may register for GED classes.

Since not completing high school is a serious problem, the goal of the GED program is to reach as many persons as possible. National figures indicate an estimated 34 percent or 72 million of American adults 25 or over have not completed 12th grade, according to Odessa College Special Project Coordinator John Tucker.

To demonstrate the effectiveness of the local GED program, last year approximately 265 adults earned GED certificates through Odessa College's Adult Basic Education 12 County co-ops, which include classes in Odessa and 21 other Permian Basin communities, according to Tucker.

Persons who wish to enroll in the "GED on TV" series need to contact Odessa College's Adult Basic Education at 335-6401.

STUDY at Home for GED

TV Classes Begin at 11p.m. Monday, April 6
On KOCV/Channel 36
(Cable Channel 13)

To Enroll or for Information, Call

ODESSA COLLEGE
335-6401
201 W. University
Odessa, Texas 79764

Odessa American 4-6-87

ODESSA COLLEGE
(915) 335-6400
201 W. University
Odessa, Texas 79764

February 6, 1987

Mr. Allen Coco
Permian Basin Personnel Association
City of Odessa
P.O. Box 4398
Odessa, Texas 79760

Dear Mr. Coco and Association Members:

I would like to thank you for this opportunity to share information and ask your cooperation in an exciting program designed to assist Permian Basin citizens with the completion of their high school level education. As you are aware, many do not have the opportunity to attend regular classes to prepare for their GED exams due to lack of transportation, child care problems or conflicts in their work schedules.

Odessa College's Adult Basic Education Program received funding from the Texas Education Agency to conduct a Special Project, GED on TV, to reach those citizens unable to attend classes. This program is broadcast over KOCV-TV with two lessons per week and repeats on Saturdays and Sundays. The taped lessons are available for viewing at the college library. The workbooks that accompany the TV lessons may be purchased at my office. Enrolled participants can receive assistance by calling the ABE offices or visiting the Adult Learning Center. Odessa's program will be used as a model for Texas.

One of the goals of the project is to work closely with business/industry/agencies to make this a community effort to increase the opportunities for West Texans to complete their studies and prepare for the GED exams. National studies have shown that a person's self-esteem and work performance increase as his educational achievements increase. This program will be beneficial to your organization if you have employees who have yet to complete their GED.

Please review the attached "Outline For Plan To Assist Business/Industry/Agencies..." and if you feel that your organization has a need for this program, give me a call and I'll be happy to discuss it with you in more detail. Also, if you know of others who might have a need, share this with them. Odessa College is your college and we welcome the opportunity to serve you.

Respectfully yours,

John D. Tucker

John D. Tucker, Coordinator
ABE Special Project
335-6401

ODESSA COLLEGE
ADULT BASIC EDUCATION

In-service Workshop
" GED ON TV "
Presented by
John Tucker, Special Project Coordinator

Butz Community Education Center
400 South Young
Ft. Stockton, Texas
Monday, March 30, 1987 6:00 - 9:00 p.m.

Odessa College's Adult Basic Education Special Project began in September of 1986. Since that time, many students have enrolled and have expressed their satisfaction with the program. John Tucker, Project Coordinator, has spent considerable time viewing the taped lessons, working through the workbooks, and coming up with many ideas for effective implementation of the GED ON TV series. These include: self-study at home and at sites with tapes, GED ON TV as the core curriculum, and GED ON TV as supplemental instruction for classrooms.

Mr. Tucker will share these ideas at the "in-service workshop", and discuss the benefits to the instructors and students. This will be a participatory workshop and you are encouraged to bring examples of problems you may have encountered in your teaching of GED.

AGENDA

6:00 - 6:10	Welcome and introductions
6:10 - 6:15	Brief overview of Odessa College's GED ON TV
6:15 - 7:15	GED on TV from A to Z
	Orientation tape
	Introduction to workbooks and exercises
	Listening Formula
	Statistical Data
7:15 - 7:30	BREAK
7:30 - 8:30	Demonstration lesson for classroom implementation
8:30 - 9:00	Open discussion/suggestions for utilization of the GED ON TV in diverse settings

GED on TV

STUDY AT HOME FOR YOUR GED

WATCH KOCV-TV CHANNEL 36 UHF
(Check your local cable company for cable channel)

STARTS MONDAY, APRIL 6, 1987
CLASSES: MON-WED-FRI 11:00 - 11:30 P.M.
REPEATS: SUNDAYS 2:00 P.M. - 3:30 P.M.

TO ENROLL OR FOR INFORMATION CALL 335-6401 (Odessa)
685-4567 (Midland)

ODESSA COLLEGE

Continuing Education

Odessa College, Adult Basic Education, Special Project

ATTACHMENTS

A. Sample Questions Taken From GED ON TV Television Lessons

B. Student Letter and Response Sheet I (Reading & Science)

C. Student Letter and Response Sheet II (Social Studies & Writing)

D. Student Letter and Response Sheet III (Math)

E. Supplemental Guide for Math Workbook

F. Supplemental Exercises

G. Project Implementation Guide

SAMPLE QUESTIONS
TAKEN FROM
KET "GED ON TV" TELEVISION LESSONS

Prepared as part of the 1986/1987 Special Project

DISTANCE LEARNING PROGRAM

FOR

DELIVERY OF ADULT BASIC AND SECONDARY EDUCATION

Funded by
The Division of Adult and
Community Education Programs
Texas Education Agency

John D. Tucker
Odessa College
Special Project Coordinator

ATTACHMENT A

SAMPLE QUESTIONS TAKEN FROM GED ON TV TELEVISION PROGRAM

These questions are taken from the material presented on the televised lessons, and are not found in the books. They may be used to verify contact hours spent watching the television presentations. The questions may be administered by telephone or through a mailing. It is recommended that two questions from each lesson be used to verify student viewing. The correct answer to each question has been underlined. Credit will be given for correctly answering one of the two.

READING 1.

1. Why was the man on horseback going to the House of Usher?
    a) His friend, who lived there, was ill and depressed and had invited him for a visit to cheer him up.
    b) He had inherited the house and was going there to live.
    c) He was returning home after fighting in a war.
2. Describe the scene as the rider approached the House of Usher.
    a) It was early morning and a light rain was falling.
    b) It was late evening and a lightning storm was approaching.
    c) It was foggy, gray, dreary and depressing.
3. In the poem, "Mother to Son", the mother talks of tacks, splinters and rooms with no carpet. What was she referring to?
    a) the condition of her house
    b) life's problems and hard times
    c) the condition of her son's house
4. The two women at the table discussing a friend's letter were amused at the friend's manner of getting even with the computer people who always used "computer jargon". How did she get even?
    a) She used "secretarial jargon" around them.
    b) She used "hospital jargon" around them.
    c) She used "zoo jargon" around them.
5. What was the poet referring to in the poem about a candle burning at both ends?
    a) a very busy life
    b) holding two jobs while rearing three children alone
    c) extra effort and hours spent studying for a college degree
6. What was one convict referring to when he told the other that what he was hearing was "the old man"?
    a) an older convict who was in pain
    b) the captain of the chain gang
    c) the Mississippi River

READING 2.

1. What two things tore down walls in Frost's poem, "Mending Walls"?
    a) hunters and frozen ground
    b) hunters and their dogs
    c) hunters and wild animals
2. What did the neighbor say about good fences in "Mending Walls"?
    a) Good fences are impossible to maintain.
    b) Good fences make good neighbors.
    c) Good fences increase the property value.

3. In the story of "The White Heron", what did the hunter give the young girl when they first became friends?
    a) a necklace of shells
    b) a baby white heron
    c) a pocket knife
4. What was "The White Heron" about, if not people and birds?
    a) wildlife conservation
    b) making choices
    c) the importance of nature to young people
5. What was the relationship of the two women in "Why I Live at the P.O."?
    a) sisters
    b) mother and daughter
    c) best friends
6. Why was the storyteller jealous in "Why I Live at the P.O."?
    a) The other woman had stolen her boyfriend.
    b) The other woman had a nice house while she had to live at the P.O.
    c) The other woman had nice clothes and jewelry.

READING 3.

1. In Huckleberry Finn, Mark Twain tells us that the best way to get people to do something is to...
    a) pay them what it is worth
    b) always use please and thank you
    c) tell them not to do it
2. Why did Huck Finn lose interest in Moses and the bullrushers?
    a) He wanted to play with Tom Sawyer.
    b) He found that they had been dead for a long time.
    c) He found that "bullrushers" were plants, not animals.
3. In the story of Moby Dick, Ishmael would go to sea when he was depressed. What did he mean by saying, "It's better than choosing the pistol"?
    a) He didn't like to use firearms.
    b) He enjoyed whaling with a harpoon more than hunting with a gun.
    c) He had to go to sea or commit suicide.
4. In the poem about "The Good Ole Days", we are told that kids today need...
    a) to be left alone
    b) more discipline
    c) more responsibilities
5. The section on critics and opinions used a musical play, Big River, as an example. What book was the play based on?
    a) Across the Wide Missouri
    b) The Adventures of Huckleberry Finn
    c) Adventures of the Amazon Queen

READING 4.

1. What were Walter Mitty's three fantasies depicted in the lesson?
    a) sea captain, airplane pilot, firefighter
    b) sea captain, airplane pilot, race car driver
    c) sea captain, airplane pilot, victim of firing squad
2. According to the video, what was Mitty escaping from by fantasizing?
    a) his cowardice and his wife's nagging
    b) a very dull job
    c) the pressure of "keeping up with the Jones"

3. What work were the two women performing in "The Day Elvis Died"?
   a) beauty operator and gardener
   b) beauty operator and waitress
   c) beauty operator and secretary
4. In "The Day Elvis Died", Erline put a sign in her window that said...
   a) Closed - The King is dead!
   b) Closed - just in case you're interested!
   c) Closed - Death of a friend!
5. In his unusual poem of repeated lines, how does T.S. Eliot tell us the world will end?
   a) with a whimper
   b) with a big bang
   c) with a boom, boom, boom

READING 5.

1. According to the tree chart on languages, which two very different languages came from the same root?
   a) Russian and Japanese
   b) English and Japanese
   c) English and Russian
2. Per international agreement, where is the Prime Meridian, 0° Longitude?
   a) Quito, Ecuador
   b) Greenwich, England
   c) New York City
3. In the flow chart indicating sequence of events, what were the trucks transporting to the disposal site?
   a) New York City garbage
   b) old car and truck tires
   c) nuclear waste
4. What did the light blue color at the mouth of the Mississippi River depict in the satellite photograph?
   a) pollution from upriver
   b) ships waiting to enter the river
   c) silt collected in the Gulf of Mexico
5. The program host wanted us to invite him if we were going where?
   a) Trinidad
   b) the Bahamas
   c) Puerto Rico

SCIENCE 1.

1. What theory explains the extinction of the dinosaurs?
   a) giant volcanic eruption caused a huge cloud that blocked sunlight
   b) giant earthquake caused a tidal wave that flooded where they lived
   c) giant meteor hit Earth causing huge dust cloud that blocked sunlight
2. In Newfoundland, what did the lynx eat when rabbits became scarce?
   a) caribou
   b) small rodents
   c) sheep
3. What is the measurement system universally used by scientists?
   a) Newton's System
   b) the Metric System
   c) the American System

4. What sustains the life cycle recently discovered 3000 meters under the ocean that does not depend upon photosynthesis to maintain the life cycle?
   a) algae that grows on the undersea rock formations
   b) bacteria from hot springs on the ocean floor
   c) microscopic animals and plants
5. The segment on "survival of the fittest" told of the Peppered Moth. The gray moths survived because they blended with the gray bark of trees, but the black moths were eaten because of the color contrasts. What caused a reversal of this, allowing the black moths to survive?
   a) the industrial revolution and the black coal soot on the tree bark
   b) The gray moth's predators developed a keen sense of smell.
   c) The black moths learned not to stay on gray trees.
6. In recent years, what caused a reversal in the Peppered Moth habitat, allowing the gray moth population to substantially increase while the black moths decreased?
   a) Gray moths started producing greater numbers of eggs.
   b) Black moths returned to the gray trees for food.
   c) Pollution control and changes in energy sources allowed the tree bark to return to its natural gray color.

SCIENCE 2.

1. What is the green substance found in plant cells but not in animal cells?
   a) algae
   b) chlorophyl
   c) chloroform
2. What example was used to illustrate chromosomes and inherited traits?
   a) people with rolled tongues
   b) left-handed children
   c) siamese twins
3. What living organism does not belong to the plant or animal kingdoms, relies on host cells for reproduction and causes a problem for the host cells?
   a) fungus
   b) serum
   c) virus
4. Space scientists are conducting experiments to develop a life cycle process for food, water and waste disposal for the space stations. What is the main substance in the experiment?
   a) synthetic foods
   b) algae
   c) concentrated vitamins and minerals
5. What did the narrator say could possibly break the life cycle that is necessary for the survival of all living things on Earth?
   a) nuclear war and the enormous dust cloud that would block the sunlight
   b) destruction of the ozone layer that protects Earth from ultraviolet rays
   c) accidental release of biological warfare germs being developed

SCIENCE 3.

1. What name has been given to the most active earthquake zone which is located in the Pacific Ocean regions?
   a) Bermuda Triangle
   b) Ring of Fire
   c) San Andres Fault

2. What two things did Wegener use to support his theory of continental drift?
    a) the way continents fit together if they were moved around, and scientific measurements taken from satellite photos
    b) the way continents fit together if they were moved around, and ancient maps found near the Dead Sea
    c) [✓ the way continents fit together if they were moved around, and fossils found in Brazil and Africa]
3. What two cycles were used to show that the Earth is constantly changing?
    a) life cycle of plants, and water cycle
    b) life cycle of plants, and rock cycle
    c) [✓ rock cycle and water cycle]
4. Why are scientists and others so worried about the San Andres Fault on the western coast of the U.S.A.
    a) [✓ It is very active and could eventually cause a portion of the coast to "fall into the sea".]
    b) They fear that large volcanos could unexpectedly form there.
    c) It is causing the Rocky Mountains to grow higher and higher.
5. We were told that the extremely slow growth of the Earth can best be compared to...
    a) the growth of a stalk of corn
    b) [✓ the growth of California's redwood trees]
    c) the growth of a stalactite in Carlsbad Caverns

SCIENCE 4.

1. Who was the U.S. astronaut that told of viewing pollution from space?
    a) [✓ Sally Ride]
    b) Chuck Yeager
    c) John Glenn
2. What famous American had the theory that dust particles in the air cause the ground temperature to get colder?
    a) Thomas Jefferson
    b) [✓ Benjamin Franklin]
    c) Thomas Edison
3. What was the result of the 1815 eruption of Mt. Tambor?
    a) [✓ snow in June and frost until August]
    b) a tidal wave that destroyed major cities on Africa's eastern coast
    c) Lava and ashes destroyed Pompei.
4. What effect does the 23½ degree tilt in the Earth's axis produce?
    a) causes high and low tides as the Earth rotates
    b) causes an increase in the brightness of the Northern Lights
    c) [✓ causes Earth's seasonal changes]
5. What three things listed below have a major impact on climate?
    a) [✓ large bodies of water, mountains and large cities]
    b) large bodies of water, ocean currents and rivers
    c) large bodies of water, ocean currents and deserts

SCIENCE 5.

1. Atoms are made up of mostly empty space, much like our solar system. If we were to compact the atoms of the Washington Monument, what size would it be?
    a) a pencil
    b) [✓ a pencil eraser]
    c) an unused piece of chalk

2. Scientists want to develop a controlled fusion process as a source of energy because of what plentiful and inexpensive fuel?
    a) sand
    b) water
    c) coal
3. How do scientists use the "half-life of radioactivity" of elements?
    a) to develop new and powerful weapons
    b) to treat cancer in humans
    c) to measure the age of artifacts
4. What was the greatest contribution made by the chemist from Siberia?
    a) He discovered radium.
    b) He developed the Periodic Table of Elements.
    c) He discovered the atom.
5. What was used in the lesson as a comparison to controlled chain reaction in the fission process?
    a) chain letters and the U.S. Postal Service
    b) auto accident during rush hour on Los Angeles freeways
    c) the first shot in a pool game

SCIENCE 6.

1. Scientists estimate that 99% of all matter in the universe is...
    a) gas
    b) plasma
    c) water
2. The person responsible for the laws of motion, inertia and friction was...
    a) Newton
    b) Galileo
    c) Aristotle
3. Why do metals make better electrical conductors than non-metals?
    a) They are easier to bend and take many shapes.
    b) They have a balance of negative and positive electrons which decreases the resistance in the electrical flow.
    c) They have an imbalance of negative and positive electrons which allows for an easier flow of electricity.
4. The Greek word for fossilized tree sap, amber, gave us what scientific term dealing with atoms?
    a) nucleus
    b) electron
    c) ambiance
5) What is the purpose for two wires in electrical cords?
    a) to keep the wires from overheating
    b) one for current flow to appliance, the other for current return
    c) to provide twice the energy with half the wire

SOCIAL STUDIES 1.

1. What was the popular belief held by the American Indians that made them easy prey for the European newcomers?
    a) legends of a white god coming from the East
    b) all beings are brothers and must be given what they desire
    c) the Earth belongs to everyone and was meant to be shared

2. What was the most destructive weapon brought to America by the Europeans?
    a) cannons
    b) [✓ disease]
    c) rifles
3. In the "Witch Trials of Salem" segment, Martha Corey confronted the young girls who claimed she was a witch. What did the girls say she was doing to keep them from talking?
    a) [✓ biting their lips]
    b) giving them severe headaches
    c) causing a hot fire in their stomachs
4. What is the modern theory for the hallucinations about witches and spells in colonial Salem, Massachusetts?
    a) group hypnosis
    b) [✓ moldy rye grain containing ergot]
    c) mental illness
5. How was the British Overseer, Andros, found out when he attempted to escape dressed as a woman?
    a) [✓ His boots gave him away.]
    b) His bonnet fell off, revealing his short hair.
    c) His deep voice when a soldier asked the "lady" to identify herself.
6. According to the lesson, one factor contributing to Washington being chosen as the first U.S. President was...
    a) his role in drafting the U.S. Constitution
    b) the large size of his land holdings
    c) [✓ the size of his calves (legs)]

SOCIAL STUDIES 2.

1. What is the name of the practice established by President Andrew Jackson to award political jobs or favors to those who help candidates win elections?
    a) [✓ The Spoils System]
    b) Manifest Destiny
    c) Executive Privilege
2. Where was the first U.S. Capital?
    a) Washington, D.C.
    b) [✓ New York City]
    c) Mount Vernon, Virginia
3. What doctrine gave the U.S. the right to expand throughout the North American continent?
    a) The Monroe Doctrine
    b) [✓ Manifest Destiny]
    c) The Spoils System
4. What invention of Eli Whitney contributed greatly to the North's victory over the South?
    a) the cotton gin
    b) the steam engine
    c) [✓ interchangeable rifle parts]
5. Why were there so many stalemates in the Civil War?
    a) [✓ Generals from both sides were graduates of West Point and fought alike.]
    b) Regardless of beliefs, Americans didn't want to kill other Americans.
    c) Lack of ammunition kept many battles from being fought to the end.

6) What was the name given to Southerners who sided with Northerners after the war?
    a) Carpet Baggers
    b) Reconstructionists
    c) [✓ Scalawags]

SOCIAL STUDIES 3.

1. Sam Slater committed the first U.S. act of industrial espionage and became a hero. What did he do?
   a) He stole the plans for power looms from England.
   b) He stole the plans for electrical power plants from England.
   c) He stole the plans for steel furnaces from England.
2. When Rose was protesting the women's conditions in the factory, what did the "matron" do to cheer her companion and her up?
   a) promised them extra time off at Christmas
   b) started singing the company work song
   c) offered them a different job in a cleaner part of the factory
3. What did one Indian leader say the U.S. government should do to make it easier to move the Indians about at will?
   a) locate the reservations near the railroads
   b) put wheels on the Indians
   c) provide each family with a covered wagon and a team of mules
4. Who was the woman who used a hatchet in her battles against alcohol?
   a) Lizzie Borden
   b) Mollie Pitcher
   c) Carrie Nation
5. What happened on the 11th hour of the 11th day of the 11th month of 1918?
   a) the stock market crash that began the Great Depression
   b) the official end of World War I
   c) the establishment of the League of Nations by President Wilson
6. Franklin Roosevelt's New Deal Program created the largest business in the U.S.A. What was this business?
   a) The Federal Bureaucracy
   b) The Bell Telephone System
   c) U.S. Steel and its subsidiaries

SOCIAL STUDIES 4.

1. Which of the following statements is attributed to Adolf Hitler?
   a) America and capitalism must be abolished from the Earth.
   b) The only crimes during a war are those committed against the Third Reich.
   c) Success is the sole earthly judge of right or wrong.
2. What event finally prompted the U.S. to enter World War II?
   a) Germany attacked England, our closest ally.
   b) Japan attacked Pearl Harbor.
   c) German submarines continued to sink U.S. merchant ships in the Atlantic.
3. What was the name of the program that developed the atomic bomb?
   a) The Enola Gay Project
   b) The Little Boy Project
   c) The Manhattan Project
4. Where was the first atomic bomb exploded?
   a) Alamogordo
   b) Hiroshima
   c) Nagasaki
5. What "ism" is used to describe unwarranted fear and accusations leading to invasion of privacy and threat to freedom of speech?
   a) Communism
   b) Socialism
   c) McCarthyism
6. When the Korean Conflict ended, which side gained the most new territory?
   a) neither. Both sides still controlled the same boundaries.
   b) North. It captured approximately 300 miles of South Korea's seacoast.
   c) South. It advanced over 800 miles into North Korea's fertile plains.

SOCIAL STUDIES 5.

1. Who became governor of Texas due to his popular radio show?
    a) Lyndon Johnson
    b) Pappy O'Daniels
    c) John Connally
2. When Ike left office, what did he warn us about?
    a) Russian plans to move into Cuba
    b) the development of a strong military-industrial complex
    c) a possible war in Vietnam
3. What happened as a result of the Cuban Missile Crisis under Kennedy?
    a) telephone hot-line was installed between Russia and the U.S.A.
    b) Kennedy was assassinated.
    c) The U.S. launched the "Bay of Pigs" invasion of Cuba.
4. What did the black student say on her first day in the previously segregated school?
    a) This is the happiest day in my life.
    b) I pray that we are doing the right thing.
    c) That's the longest block I have ever walked.
5. What made the Vietnam Conflict more real to U.S. citizens than any other war in our history?
    a) More U.S. soldiers died than in any previous war.
    b) Television brought it right into our homes.
    c) Over 60% of U.S. families had members fighting in the war.
6) What constitutional amendment proposed in 1972 still has not been ratified by enough states to become law?
    a) return to 65 mile per hour speed limit
    b) re-instate the death penalty
    c) the ERA (equal rights)

WRITING 1.

1. What did Arthur say writing skills could be compared to?
    a) construction skills
    b) sewing skills
    c) cooking skills
2. What item did the unhappy customer return to Sonya?
    a) Mitey-Mite Microwave Oven
    b) Acme Build-a-Shelf Kit
    c) Dirteater Vacuum Cleaner
3. Sonya told Arthur, "Now I can spell correctly if a customer returns more than one __________."
    a) cameo
    b) radio
    c) igloo
4. What did Arthur tell us to do when in doubt about spelling a word?
    a) Write it down and ask someone to help.
    b) Look it up in the dictionary.
    c) Spell it the way it sounds.
5. What is the name of the store where Sonya works?
    a) Macy's
    b) Lang's
    c) Lacy's
6. Sonya complained to Arthur about the lack of what in his apartment?
    a) food
    b) chairs
    c) heat

WRITING 2.

1. What happened to Sonya once when she didn't have a comma?
   a) She sent too many items to a customer.
   b) She ran out of gas.
   c) Her supervisor tore up her report.
2. What was the topic of Sonya's letter to Arthur?
   a) feeding his fish
   b) her problems with capitalization
   c) the lack of food in his house
3. What happened on Sonya's ride in the country with Arthur?
   a) It rained on their picnic.
   b) They forgot to bring the food.
   c) They got lost and ran out of gas.
4. What meal did Sonya prepare for Arthur?
   a) chicken with wine sauce
   b) fish with wine sauce
   c) fish and chips
5. How did Arthur and Sonya get home after running out of gas?
   a) They had to walk.
   b) They hitched a ride in a chicken truck.
   c) They called Freddy to bring some gasoline.
6) What was Freddy demonstrating that did not function properly?
   a) Acme Build-a-Shelf Kit
   b) Mitey-Mite Microwave Oven
   c) Dirteater Vacuum Cleaner

WRITING 3.

1. What is the name of Arthur's publishing company?
   a) Edwards and Son Publishing
   b) J.R. Edwards Publishing
   c) Edward's Publishing
2. What was causing Arthur problems with his writing?
   a) too many interruptions by Sonya
   b) word processor not working
   c) writer's block
3. How long had Sonya been working at her job?
   a) six months
   b) two years
   c) one year
4. What did Sonya request in the letter to her employer?
   a) a day off for a trip in the country with Arthur
   b) a change to a new department in the store
   c) a raise in salary
5. What did the personnel manager do during Sonya's job interview?
   a) He tore up her job application.
   b) He recommended she return to school to learn more English.
   c) He wanted to know why she had come to America.
6. What was Arthur told after he delivered his manuscript on deadline.
   a) Fine, now your contract will not be terminated.
   b) This is not acceptable. You must do it over by tomorrow.
   c) The publisher will review this when he returns from the Bahamas.

WRITING 4.

1. What were the food dishes Arthur burned while he was helping Freddy?
   a) macaroni and cheese, and fish in wine sauce
   b) macaroni and cheese, and cabbage pizza
   c) fish in wine sauce, and cabbage pizza
2. What happened at Sonya's work that required a written report?
   a) The boiler overheated.
   b) A customer returned a defective product.
   c) There was a fire in the control room.
3. How did Freddy repair Arthur's table?
   a) He cut a little piece off the leg.
   b) He placed a piece of folded paper under the leg.
   c) He tightened a loose screw in the leg.
4. Why did Freddy want to improve his writing skills?
   a) He wanted to write a maintenance manual.
   b) He had been criticized for improper English in his reports.
   c) He wanted a new job that required good writing skills.
5. What did Arthur stress as being one of the most important things to do when writing?
   a) Use the services of a professional proof reader.
   b) Always keep a copy in case one gets lost.
   c) Carefully check your work for errors.

WRITING 5.

1. What problem was Arthur having at his apartment?
   a) The furnace was not working properly.
   b) The electricity kept going off.
   c) Water was leaking from the ceiling.
2. What happened on the fifth floor at Sonya's work that involved Freddy and some customers?
   a) He was demonstrating a bicycle and ran into a woman and her son.
   b) He and a customer helped deliver a baby.
   c) He and some customers became trapped in the elevator.
3. What was Sonya required to do in Mrs. Johnson's absence?
   a) answer the phones and supervise the other employees.
   b) summarize 100 reports of customer complaints
   c) refer all calls and problems to the assistant supervisor
4. What was on top of Arthur's word processor?
   a) a red baseball cap
   b) a note reminding him of his next deadline
   c) a bust of Shakespeare
5. What was Arthur's comment to Sonya about her experiences during Mrs. Johnson's absence?
   a) Now what do you think about being a supervisor?
   b) I wondered why you had not interrupted me today.
   c) Sounds like you had a lot of fun.

WRITING 6.

1. What event was sponsored by Sonya's employer to raise money for a good cause?
   a) a store wide sale with 20% of profits going to charity
   b) an employee style show
   c) an employee talent show

2. What were Sonya and Freddy doing that caused Arthur to not feel well?
    a) eating peanut butter and pickle sandwiches
    b) singing and playing the piano
    c) discussing Sonya's old boyfriend and how handsome he was
3. What did the reviewer say about Sonya and Freddy?
    a) Their performance was the highlight of the evening.
    b) This duo should be recording.
    c) Their performance brought pain to this listener's ears.
4. What did Arthur say that Sonya did for him?
    a) added color to a dull writer's existence
    b) helped him be creative by playing the piano
    c) gave him many good ideas for his book
5. What did Mrs. Johnson have Sonya prepare on her word processor?
    a) a report on the evening's activities
    b) invitations to the fund raising event
    c) a response to the critical review of the event
6. What song did Freddy and Sonya perform?
    a) "Do the Freddie"
    b) "With a Little Help From My Friends"
    c) "I Can't Get No Satisfaction"

WRITING 7.

1. What were Sonya and Arthur doing at the beginning of the lesson?
    a) preparing a speech for Mrs. Johnson
    b) developing photographs
    c) preparing another meal
2. Why did Arthur say his photos were all blurred?
    a) This made them more artistic.
    b) His camera was not focusing properly.
    c) He had lost his contacts and glasses.
3. Why was Sonya writing an article about Mrs. Johnson for the newsletter?
    a) She had been chosen department head of the month.
    b) She had been given a promotion for outstanding work.
    c) She had given a presentation at a national conference.
4. What animal was mentioned as being an endangered species in Africa?
    a) gorilla
    b) wildebeest
    c) giraffe
5. How did Sonya say Mrs. Johnson learned to handle complaints so well?
    a) She studied a special course in management school.
    b) She grew up with eight brothers and sisters.
    c) She had worked with Freddy for many years.
6. Where was Mrs. Johnson from?
    a) Atlantic City
    b) Atlanta
    c) Alabama

WRITING 8.

1. What was the penalty for not meeting the publisher's deadline?
    a) no payment for the late chapter
    b) 10% reduction in salary
    c) termination of the contract

2. What recipe had the publisher's secretary given Arthur?
    a) chicken with rice
    b) chicken and dumplings
    c) chicken and noodles
3. What did the publisher want Arthur to include in his book?
    a) a chapter on the publisher's wife
    b) a chapter on how the publisher became successful
    c) a chapter on how to prepare a job application
4. Who was staying at Arthur's apartment?
    a) his little nephew, David
    b) Sonya's nephew, David
    c) Freddy's nephew David
5. Why was Sonya writing a letter to her employer?
    a) to request permission to enter a supervisor training program
    b) to request permission to enter a sales training program
    c) to request permission to enter a time management program
6. What was the publisher carrying when he finally arrived at his office?
    a) Arthur's manuscript
    b) his briefcase
    c) a golf club

WRITING 9.

1. What was the name of the building being demolished?
    a) Lexington Avenue Art Gallery
    b) Palace Theater
    c) Acme Adult Theater
2. Why was Sonya writing a letter to the demolition company?
    a) to protest all the noise
    b) to ask them to pay for damage to her car
    c) to request protective measures for the safety of Lacy's customers
3. Who wrote a letter to the newspaper protesting the demolition of the building?
    a) Sonya
    b) Freddy
    c) Mr. Edwards' secretary
4. Why was Freddy filing an insurance claim?
    a) Debris from the demolition broke his car window.
    b) Debris from the demolition damaged the top of his car.
    c) Debris from the demolition smashed his bicycle.
5. What building was to replace the one being demolished?
    a) a new video store
    b) Lacy's Annex
    c) Angelo's Restaurant
6. What was the "souvenir" that Freddy gave to Arthur?
    a) a gargoyle foot from the demolished building
    b) window trim from the demolished building
    c) a brass doorknob from the demolished building

WRITING 10.

1. What item of food had Arthur prepared?
    a) chocolate chip cookies
    b) a cake
    c) cherry pie

2. Why did Sonya want to borrow some sugar from Arthur?
   a) to bake a cake for her office party
   b) to bake cookies for Arthur's nephew
   c) to bake cookies for an office meeting
3. What happened to Sonya when Mrs. Johnson was promoted?
   a) She became her assistant.
   b) She became her executive secretary
   c) She became supervisor.
4. What would Mr. Edwards do for his secretary if Arthur met his deadline?
   a) give her the afternoon off with pay
   b) take her out to dinner
   c) give her a 10% raise
5. Why was Freddy given a 10% raise and promoted to foreman?
   a) He passed his GED.
   b) He did a good job repairing the elevators and the boilers.
   c) The company adopted his maintenance manual.
6. How are Arthur, Sonya and the others going to celebrate the promotions and the completion of Arthur's book?
   a) going to dinner at Angelo's
   b) have a big party at Arthur's
   c) going to dinner at the Palace

MATH 1.

1. What example did David use to illustrate fraction relationships?
   a) apples and oranges
   b) people in church sharing songbooks
   c) people in church sharing pews
2. According to David and Frank, what is a common denominator for cars and bikes?
   a) vehicles
   b) methods of transportation
   c) wheels
3. In Martha's comment on "Murphy's Law", what three things went wrong for her?
   a) sink ran over, tire went flat, no parking place
   b) sink ran over, car wouldn't start, key broke off in door
   c) car wouldn't start, tire went flat, forgot her math book
4. How did Sue use fractions to solve one of her projects.
   a) converting measurements for a recipe for cake
   b) to see if she had enough pint containers for her canning
   c) to see if she had enough material for her sewing project
5. According to Todd, Bill had a very weird method for doing what?
   a) calculating the time it took him to jog three miles
   b) figuring out the best jogging course
   c) setting up a variable jogging schedule

MATH 2.

1. Why was Martha upset and crying in the opening scene?
   a) She needed to know fractions to qualify for a new job.
   b) Her car broke down and she couldn't get to work.
   c) She failed the first math quiz.

2. David told Martha that all the stuff in class is not necessary; sometimes it is best to...
   a) keep a reference book handy.
   b) build our own rules.
   c) use our calculators.
3. What did David keep repeating to Martha as she struggled with the math problem?
   a) "Don't tell me what you did; just do it."
   b) "Remember the rule from yesterday."
   c) "It will get easier the more you work at it."
4. Why did Martha feel so proud after her lesson with David?
   a) She worked out the system on her own.
   b) She only missed one out of twenty problems.
   c) She had finally memorized the rule for reducing fractions.
5. What is the name for the system Martha worked out on her own?
   a) Fraction Family Replacements
   b) General Case Statements for Addition and Subtraction of Fractions
   c) Systematic Formula for Reduction of Fractions

MATH 3.

1. Why was Todd visiting David's office?
   a) to pick up some papers Frank had left for him
   b) to get assistance with a math problem
   c) to pick up some graphs and charts for the classroom
2. How many legs would a camel have if we called a hump a leg?
   a) five if it were a dromedary camel
   b) six if it were a Bactrian camel
   c) four; calling a hump a leg doesn't make it a leg
3. What did David tell Frank he could always expect in the class?
   a) Some students will never learn fractions, regardless of the method used.
   b) Students will always ask questions the teacher has not thought of.
   c) At least one student will be the class clown.
4. What example did Todd use to explain re-naming of parts of something but keeping the same values?
   a) quarters, dimes, nickels and pennies
   b) yards, feet and inches of wood
   c) gallons, quarts and pints of paint
5. What material was Bill using to make repairs in his garage, kitchen and furnace?
   a) copper tubing
   b) plastic tubing
   c) aluminum tubing

MATH 4.

1. Todd said he would be a teacher if he could do what?
   a) do away with all tests
   b) have the key to the teachers' lounge
   c) skip class the following night
2. What example did Bill use to explain fraction families?
   a) people and shoes
   b) joggers and laps run
   c) divisions of measurements on a yardstick

3. What reward did Bill take for explaining a problem to the class?
    a) another cup of coffee
    b) another donut
    c) another cookie
4. Why did Martha "freak out" when she saw the math test on the job application?
    a) It contained nothing she had studied for.
    b) It covered mixed numbers and she hadn't prepared for them.
    c) Everything she had studied for was on the test.
5. Why did David bring the giant compass to class?
    a) to illustrate pi (π)
    b) to measure the circumference of the globe in the class
    c) to draw a circle large enough to measure in yards and feet

MATH 5.

1. Why had David been down at the mill?
    a) to pick up some pieces of wood to use in class
    b) to invite a worker to bring some examples to class
    c) to help employment people screen job applicants
2. What did Frank offer David after work?
    a) a ride home
    b) to help develop new math charts
    c) a cup of coffee and a half piece of pie
3. In Todd's hen and egg problem, where did he say he got the hen and a half?
    a) using a math formula
    b) from an egg and a half
    c) by dividing three hens by two
4. How did Martha solve her problem with party favors and place cards that caused Frank and the class to tease her?
    a) She used her calculator.
    b) She called Sue late at night.
    c) She got help from her neighbor's teenage daughter.
5. Why did Todd say someone called him collect from Alaska late one night?
    a) to offer him a new job
    b) to ask him the hen and egg problem
    c) to ask him the fish problem

MATH 6.

1. What did Steve Wise tell us about cancellation in fractions?
    a) It is like reducing the answer before you get the answer.
    b) It can only be done in multiplication problems.
    c) It should only be used when the lowest common denominator is known.
2. What example was given to illustrate intuition?
    a) Bill and Sue both got the same answer using different formulas.
    b) Sherlock Holmes' statement of "Elementary my dear Watson".
    c) a light bulb over Donald Duck's head in the cartoons.
3. What unusual example did Frank use to illustrate dividing by fractions?
    a) a poster of a flock of sheep
    b) a bag of marbles
    c) a stack of poker chips
4. What items did Frank bring to class to clear up the confusion on parts of piles of something?
    a) soda straws
    b) sticks
    c) coins

5. What very important concept did Frank present to the class?
   a) cannot remember all the rules; must have a reference book handy
   b) [✓ cannot remember all the rules; must think, substitute knowns and use reason]
   c) cannot remember all the rules; must rely on intuition 90% of time

MATH 7.

1. What challenge did Frank give the class about the slides on decimals?
   a) said they could memorize the rules in ten minutes
   b) said they could always solve the problems "in their heads"
   c) [✓ said they could develop their own narrative; the commercial one was bad]
2. Frank inferred that the reason we use tens in the decimal system is...
   a) dividing and multiplying by tens is very easy
   b) [✓ humans have ten fingers]
   c) original measuring devices used by the Egyptians were divided into tens
3. When a student remarked that 1/100 of something is not very big, what did Todd say?
   a) It is easier to deal with small parts than large parts.
   b) [✓ 1/100 of a whale is pretty big.]
   c) If you always think small you'll never get anywhere.
4. What was David doing as the students worked examples of decimal problems?
   a) [✓ He was videotaping their work to use in future classes.]
   b) He was working with Frank to draw matching wall charts.
   c) He was writing the problems on the blackboard.
5. What comment did Sue make about being cheery?
   a) Frank always has a cheery class.
   b) It's hard to be cheery with all these numbers in my head.
   c) [✓ I'm not so cheery when helping Martha with decimals at midnight.]

MATH 8.

1. Why was Martha so happy at the beginning of this lesson?
   a) [✓ She was successful in helping her neighbor with her math problems.]
   b) She finally understood the decimal system.
   c) She got a raise because of her improvement in math.
2. What example was used to illustrate proportions?
   a) comparing Bill and Todd's laps in jogging
   b) [✓ revolutions of bike pedals to revolutions of the wheels]
   c) comparing amounts of flour and other ingredients for a cake
3. What example did Steve Wise use to illustrate ratios?
   a) the speed of a car and the speed of a moped
   b) [✓ number of white horses in a stable to all horses in the stable]
   c) number of hens to number of eggs laid in a week
4. What was Martha doing while she helped her neighbor with math?
   a) canning beans
   b) cooking dinner
   c) [✓ washing dishes]
5. What comment did Bill make to Frank when Frank arrived late for class?
   a) Why can teachers be late for class and not students?
   b) [✓ You're fired.]
   c) We were just leaving since we had no teacher.

MATH 9.

1. What was Todd doing when he bumped into Frank in the supply room?
   a) returning audio visuals from the classroom
   b) looking for a projector for the class
   c) delivering an order of paint
2. What did Todd say the runners in Bill's Midnight Marathon should be called?
   a) night crawlers
   b) moonlight masochists
   c) misguided muscles
3. What comment did Sue make about Bill's running uniform he wore to class?
   a) The colors are so bright we can study with the lights off.
   b) It's a little early for halloween.
   c) That red will match your face when you finish the race.
4. What word did Frank misspell on his handouts?
   a) forty
   b) fourteen
   c) fourths
5. What items from a bag were used to illustrate percentages?
   a) marbles
   b) checkers
   c) coins

MATH 10.

1. Why were Frank and Todd jogging with Bill?
   a) They lost a bet that he would not finish in the top 10% of the runners.
   b) They were getting in condition for a race.
   c) They were helping in a charity run for pledge money.
2. What did Bill give Frank and Todd for energy as they were jogging?
   a) chocolate bars
   b) granola bars
   c) gator-ade
3. What comment did Bill make about taxes?
   a) There are more ways to figure taxes than there are ways to pay them.
   b) The only things we're certain of are higher taxes and death.
   c) I wish I could run from taxes as well as I can run these races.
4. What surprised Martha when she began working on the computer?
   a) It corrected her spelling.
   b) It knew her name.
   c) It gave her detailed instructions for the problems she missed.
5. Why was Martha in the paint store with Todd?
   a) She was redecorating her house and needed some paint.
   b) He hired her to help with pricing of items for a sale.
   c) She needed information on percentages of colors to make lighter shades.

MATH 11.

1. What were the students told to do with the charts Frank had on the wall?
   a) memorize the problems for future reference
   b) rearrange them in proper sequence for solving problems
   c) wander around and get familiar with them
2. What did Todd use as a comparison to the number line for signed numbers?
   a) a conversion chart from Fahrenheit to centigrade
   b) a depth gauge on the periscope in a submarine
   c) a thermometer scale

3. How long did Frank say the students had been using algebra?
   a) since 7th grade
   b) since Kindergarten
   c) since 5th grade
4. What did Frank use to illustrate balances in algebraic equations?
   a) a scale with checkers and boxes of unknowns
   b) blocks of wood and small weights
   c) a scale with identical containers of liquid
5. What did a customer bring into Todd's store that required algebra for figuring out the measurements?
   a) a problem to find the amount of paint to cover a deck over a patio
   b) a fish with only the head measurement known
   c) a problem to find the amount of wallpaper for an odd-shaped room

MATH 12.

1. Why had Frank invited Sue and Todd to his home?
   a) He wanted them to help prepare some brain-teasers for the class.
   b) They were planning a party for David.
   c) He wanted them to become tutors for some of the students in the class.
2. How did Frank say we should treat the parenthesis in algebraic equations?
   a) Disregard the numbers inside the parenthesis.
   b) It is a package that says, "Open me first".
   c) Functions inside should be worked last.
3. Frank brought a color poster to illustrate what problem?
   a) Todd's hen and egg problem
   b) Todd's fish problem
   c) Todd's sheep problem
4. What secret "formula" did Martha use to work square root problems so quickly?
   a) her calculator
   b) the Pythagorean Theorem
   c) the rule for reciprocals
5. In the word association game, when Martha gave Bill the word FORMULA, what did he respond?
   a) Similac
   b) Pythagorean
   c) Diapers

MATH 13.

1. What were Bill and Todd doing in the opening scene?
   a) jogging
   b) eating lunch
   c) playing tennis
2. What did Bill tell Todd about tennis and geometry?
   a) There is no room for geometry in tennis.
   b) Tennis was more fun before we used geometry.
   c) Geometry has helped me improve my serve.
3. Why did Bill need to learn "practical geometry"?
   a) to improve his tennis game
   b) to do a better job with remodeling his house
   c) to upgrade his job at the plant

4. What really seemed to bother Todd about geometry?
   a) He couldn't understand how little squares fit evenly into circles.
   b) He didn't like to use pi (π) because it was not an "exact" number.
   c) There were too many formulas to remember.
5. What did Frank tell Todd to unravel to understand the relationship of squares, rectangles and circles?
   a) a ball of twine
   b) an orange
   c) the inside of a golf ball

MATH 14.

1. What did Frank hand out to the students at the beginning of class?
   a) a practice test
   b) certificates for attendance
   c) math formula handbooks
2. What did Todd help Bill figure for the addition to his house?
   a) the proper way to hang the doors and windows
   b) the angle of slope for the roof
   c) the number and cost for bricks
3. What hint did Frank give the class about the final quiz?
   a) Remember Pythagoras.
   b) Remember Todd's fish.
   c) Remember Bill's metal bar.
4. When Sue and Martha were canning, what comment did Martha make?
   a) Can you imagine a barrel of beans?
   b) How many beans fit into each jar?
   c) What am I going to do with so many beans?
5. When Martha called Sue on the phone, what did she say?
   a) You can come for your beans now.
   b) I'm having alligator problems!
   c) Can you help me prepare for tomorrow's quiz?

MATH 15.

1. Who or what is the "James" in this lesson?
   a) an intellectual tool for getting into math problems
   b) a consultant hired by the school to evaluate the programs
   c) a special formula for solving calculus problems
2. What was Frank's going away present to the class?
   a) a party at Tony's Pizza Place
   b) a final quiz
   c) a special edition math reference book
3. When Bill announced the party, what did he add as a surprise?
   a) There will be a drawing for a door prize.
   b) The whole thing is on Frank!
   c) The entire menu is written in math formulas.
4. How many problems were on the final exam?
   a) 20
   b) 10
   c) 2
5. What present did the class give to Frank?
   a) a wall hanging of the Pythagorean Theorem
   b) a 58½ inch autographed cloth fish
   c) a paper weight of a hen and a half with an egg and a half

STUDENT RESPONSE SHEET
AND
QUESTIONNAIRE FOR CONTACT HOURS
"GED ON TV" - READING AND SCIENCE

Prepared as part of the 1986/1987 Special Project

DISTANCE LEARNING PROGRAM

FOR

DELIVERY OF ADULT BASIC AND SECONDARY EDUCATION

Funded by
The Division of Adult and
Community Education Programs
Texas Education Agency

John D. Tucker
Odessa College
Special Project Coordinator

ATTACHMENT B

ODESSA COLLEGE

(915) 335-6400
201 W. University
Odessa, Texas 79764

Dear GED ON TV Student:

As we discussed at the time of your registration for the GED ON TV, I would like to know how you are progressing. Since I could not reach you by phone, I'm enclosing a brief questionnaire for you to complete. Please return this to me in the postage paid envelope by January 5, 1987. This is the first time we are offering GED study by television and your input will be very helpful to us.

We are interested in assisting you any way we can throughout your studies. Remember to contact me at 335-6401 if you have any problems with your lessons. I can be reached between 8:00 a.m. and 5:00 p.m. If it is not convenient for you to contact me during those hours, do not hesitate to leave a message at that same number between 5:00 and 9:00 p.m. and I will get back to you.

The Reading, Science and Social Studies will end on January 4, 1987. At that time, if you feel you are ready to take the GED tests over those subjects, we would like to recommend that you take a practice test at our office. You may do this on Wednesdays at 8:30 a.m., 1:30 p.m. or 6:30 p.m. There is no cost for the practice tests.

I am enclosing a schedule for the GED testing, conducted by the College Testing Center, located on the second floor of the Student Union Building. Please read the schedule and instructions carefully. If there are any questions about the GED tests, you are to contact the Testing Center at 335-6622.

Enclosed also is the new schedule for the Writing and Math lessons which will be aired beginning Monday, January 5th and ending Sunday, April 5th. As with the Reading series, there are two lessons per week which will be repeated twice. The Sunday repeats are subject to change so you may want to view the lessons at the other times.

The GED ON TV tapes are available at the Odessa College Library for you to watch any lesson you may have missed or wish to review. These may be viewed only in the library on library equipment. Enclosed is a copy of the library hours.

We at Odessa College wish you and yours a very safe and happy holiday season. Please note that the college will be closed from 5:00 p.m., December 19 until 8:00 a.m. on January 5, 1987. Thank you for your cooperation and participation in GED ON TV.

Sincerely yours,

John D. Tucker

John D. Tucker
Special Project Coordinator

enclosures

GED ON TV

STUDENT VIEWING RESPONSE SHEET

ODESSA COLLEGE, ADULT BASIC EDUCATION, SPECIAL PROJECT, 201 W. UNIVERSITY, ODESSA, TX. 79764

A. Please choose the correct answer to the questions based upon the television lessons.

READING 1.

1. Why was the man on horseback going to the House of Usher?
_____ a) at the invitation of his ill and depressed friend
_____ b) he had inherited the house and was going there to live
_____ c) he was returning home after fighting in a war

2. One of the convicts was listening to something. The other told him it was the "old man
What was the "old man"?
_____ a) an older convict who was in pain
_____ b) the Mississippi River
_____ c) the Captain of the chain gang

READING 2.

1. What two things tore down the walls in Robert Frost's poem, "Mending Walls"?
_____ a) hunters and their dogs
_____ b) hunters and frozen ground
_____ c) hunters and wild animals

2. What was the relationship of the two women in "Why I live at the P.O."?
_____ a) sisters
_____ b) mother and daughter
_____ c) best friends

READING 3.

1. Mark Twain, in Huck Finn, tells us the best way to get someone to do something is...
_____ a) pay them what it is worth
_____ b) tell them Please and Thank You
_____ c) tell them not to do it

2. In the poem about "the good ole days", the author tells us that kids today need...
_____ a) more discipline
_____ b) to be left alone
_____ c) more responsibilities

READING 4.

1. The video about Walter Mitty's fantasys showed three imagined roles for Mitty.
_____ a) sea captain, airplane pilot, firefighter
_____ b) sea captain, airplane pilot, race car driver
_____ c) sea captain, airplane pilot, victim of firing squad

2. In "The Day Elvis Died", Erline put a sign in her beauty shop window that said...
_____ a) Closed - just in case you're interested
_____ b) Closed - death of a friend
_____ c) Closed - The King Is Dead!

STUDENT NAME: ______________________________ DATE: __________________

STUDENT VIEWING RESPONSE SHEET PAGE 2

READING 5.

1. The Tree Chart on Languages showed which two very different languages come from the same root?

_____ a) Russian and Japanese
_____ b) English and Japanese
_____ c) English and Russian

2. Per international agreement, where is the Prime Meridian, 0° Longitude?

_____ a) Greenwich, England
_____ b) New York City
_____ c) Quito, Ecuador

SCIENCE 1.

1. What theory explains the extinction of the dinosaurs?

_____ a) giant volcanic eruption caused huge cloud that blocked sunlight
_____ b) giant earthquake flooded where they lived
_____ c) giant meteor hit Earth causing huge dust cloud that blocked sunlight

2. In the food cycle in Newfoundland, what did the lynx eat when rabbits were scarce?

_____ a) small rodents
_____ b) caribou
_____ c) sheep

SCIENCE 2.

1. Plant cells contain what green substance that makes them different from animal cells?

_____ a) algae
_____ b) chlorophyl
_____ c) chloroform

2. What example was used to illustrate chromosomes and inherited traits?

_____ a) siamese twins
_____ b) left-handed children
_____ c) people with tongues rolled up

SCIENCE 3.

1. When earth plates move together, they cause earthquakes. What is the name of the most active Pacific earthquake zone?

_____ a) Bermuda Triangle
_____ b) San Andres Fault
_____ c) Ring of Fire

2. What two things did Wegener use to support his theory of Continental Drift?

_____ a) the way continents fit together if they were moved around & scientific measurements from satellite photos
_____ b) the way continents fit together if they were moved around & fossils found in Brazil and Africa
_____ c) the way continents fit together if they were moved around & ancient maps found near the Dead Sea

STUDENT NAME: ______________________________ DATE: __________________

SCIENCE 4.

1. The U.S. Astronaut that told of viewing pollution from the space capsule was...
   - _____ a) Chuck Yeager
   - _____ b) Sally Ride
   - _____ c) Virgil Grissom
2. What famous American had the theory that dust particles in the air lower the ground temperature?
   - _____ a) Benjamin Franklin
   - _____ b) Werner Von Braun
   - _____ c) Thomas Jefferson

SCIENCE 5.

1. Atoms are made up of mostly empty space, much like our solar system. If we were to compact the atoms of the Washington Monument, what size would it be?
   - _____ a) a common pencil eraser
   - _____ b) a new piece of chalk
   - _____ c) a pencil
2. Scientists want to develop a controlled fusion process as a source of energy because the fuel for fusion is plentiful and inexpensive. That fuel is...
   - _____ a) sand
   - _____ b) coal
   - _____ c) water

SCIENCE 6.

1. Scientists estimate that 99% of all matter in the universe is...
   - _____ a) gas
   - _____ b) plasma
   - _____ c) liquid
2. The person responsible for the laws of motion, inertia and friction was...
   - _____ a) Newton
   - _____ b) Galileo
   - _____ c) Aristotle

STUDENT NAME: ______________________ DATE: ______________

ADDRESS: ______________________ TELEPHONE: ______________

STUDENT VIEWING RESPONSE SHEET PAGE 4

STUDENT NAME: ______________________________ DATE: ______________________

B. Please answer the questions about the series to help us better serve you.

1. Do you find the television videos help you to better understand and respond to the exercises in the book? ______YES _____NO

2. Do you find the videos interesting? _____YES _____NO Comment: ______________

3. Do you find the videos informative? ____YES ____NO Explain: ______________

4. Have you experienced any difficulty with your lessons? ____YES ____NO Please explain, giving page numbers and exercise number.

5. Have you received assistance with your lessons? ____YES ____NO. Who helped you?

6. Is this program meeting your expectations? ____YES ____NO If NO, what needs to be done? How can we help? ______________

7. Based upon your experience to date, would you recommend this program to others? ____YES ____NO If NO, explain: ______________

8. What do you like best about this program and why? ______________

9. Do you feel that you are prepared to take the GED tests over these subjects? ____YES ____NO If NO, explain: ______________

10. Approximately how much time does it take for you to complete each lesson, including the time spent watching TV? ________ Did you watch lesson more than once? ___Y___N

Thank you for filling out this Student Response Sheet. Your input will help us to serve you better. Please return your completed Response Sheets to me in the enclosed postage-paid envelope.

We are interested in providing any assistance you need to succeed in this program, and will be contacting you from time to time to see how you are doing. The best time for me to contact you is: ______________________. REMEMBER, any time you have any difficulty or need to discuss any part of the lessons, CALL ME!!! 335-6401.

John D. Tucker

John D. Tucker
Special Project Coordinator

STUDENT RESPONSE SHEET
AND
QUESTIONNAIRE FOR CONTACT HOURS
"GED ON TV" - SOCIAL STUDIES AND WRITING

Prepared as part of the 1986/1987 Special Project

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Odessa College
Special Project Coordinator

ATTACHMENT C

ODESSA COLLEGE

(915) 335-6400
201 W. University
Odessa, Texas 79764

Dear GED on TV student:

It doesn't seem possible that 1986 is just a memory. I hope it was a good year for you. As 1987 progresses, you are moving closer to achieving the goal you set for yourself when you decided to prepare for your GED through GED on TV. Math is the only subject remaining for those who enrolled in November or early December.

I sincerely hope you have enjoyed the lessons and have learned as much as I have. Based upon the relatively few calls for assistance, I can assume that you are progressing well and the lessons are meeting your expectations. If you have needed assistance but were hesitant to call, please contact me as soon as possible. I want to do everything I can to help you be successful in reaching your goal.

At this time, I would like to request your assistance with an important part of the program. Odessa College was chosen as the first site to offer GED on TV for those who cannot attend regular classes. Adult educators across Texas are very interested in the effectiveness of this program in meeting student needs. I have been invited to do presentations at state and regional conferences beginning on February 27th in Austin. Your input as a student is so much more important than mine as a program coordinator when it comes to helping other colleges reach a decision to offer this program in their areas.

I am enclosing a questionnaire on the social studies and writing lessons and asking for your comments on the program. THIS IS NOT A TEST. It is used to gather important information that will be used to improve the program for future students. It is similar to the questionnaire I sent to you before Christmas on reading and science. Please take a few minutes to complete and return it to me at your earliest convenience in the enclosed postage-paid envelope. As for the earlier questionnaire, I would like to thank those of you who did return it to me. For those who have not done so, it is still not too late. I would appreciate it very much if you could get these to me by February 20. All replies are strictly confidential and your name will not be used.

As always, I thank you for your cooperation and participation in GED on TV. If you need any assistance or just want to talk about the program, please call me or stop by. Remember, this is your program and I am here to work with you. Keep up the good work and the GED will soon be yours.

Sincerely yours,

John D. Tucker

John D. Tucker
Special Project Coordinator
335-6401

GED ON TV

STUDENT VIEWING RESPONSE SHEET

ODESSA COLLEGE, ADULT BASIC EDUCATION, SPECIAL PROJECT, 201 W. UNIVERSITY, ODESSA, TX. 79764

Please choose the correct answer to the questions based upon the television lessons.

SOCIAL STUDIES 1.

1. What is the modern theory for the hallucinations about witches and spells in colonial Salem, Massachusetts?

____ a) group hypnosis
____ b) moldy rye grain containing ergot
____ c) mental illness

2. What was the most destructive weapon the Europeans brought to America?

____ a) cannons
____ b) rifles
____ c) disease

SOCIAL STUDIES 2.

1. What was the name given to Southerners who sided with Northerners after the war?

____ a) Carpet Baggers
____ b) Scalawags
____ c) Reconstructionists

2. What was the name of the practice started by President Andrew Jackson whereby those who helped candidates win elections were awarded jobs or favors?

____ a) The Spoils System
____ b) Manifest Destiny
____ c) Executive Privilege

SOCIAL STUDIES 3.

1. Sam Slater committed the first U.S. act of industrial espionage and became a hero. What did he do?

____ a) He stole plans for the power loom from England.
____ b) He stole plans for electrical power plants from England.
____ c) He stole plans for steel furnaces from England.

2. What happened on the 11th hour of the 11th day of the 11th month in 1918?

____ a) the stock market crash that began the Great Depression
____ b) the establishment of the League of Nations by President Wilson
____ c) the official end of World War I

SOCIAL STUDIES 4.

1. What was the name of the program that developed the atomic bomb?

   ____ a) The Enola Gay Project

   ____ b) The Manhattan Project

   ____ c) The Little Boy Project

2. What "ism" is used to describe unwarranted fear and accusations leading to invasion of privacy and threat to freedom of speech?

   ____ a) Communism

   ____ b) Nazism

   ____ c) McCarthyism

SOCIAL STUDIES 5.

1. What did the black student say on her way to her first day in the previously segregated school?

   ____ a) This is the happiest day of my life.

   ____ b) I pray that we are doing the right thing.

   ____ c) That's the longest block I ever walked.

2. What happened as a result of the Cuban Missile Crisis during the Kennedy Administration?

   ____ a) Kennedy was assassinated.

   ____ b) The Russian Premier was forced from office.

   ____ c) A telephone hot-line was installed between Russia and the U.S.A.

STUDIENT NAME: ______________________ DATE: ______________

ADDRESS: ______________________ TELEPHONE: ______________

GED ON TV

STUDENT VIEWING RESPONSE SHEET

ODESSA COLLEGE, ADULT BASIC EDUCATION, SPECIAL PROJECT, 201 W. UNIVERSITY, ODESSA, TX. 79764

Please choose the correct answer to the questions based upon the television lessons.

WRITING 1.

1. What did Arthur say writing skills could be compared to?
   - ____ a) construction skills
   - ____ b) cooking skills
   - ____ c) sewing skills
2. Sonya told Arthur, "Now I can spell correctly if a customer returns more than one __________."
   - ____ a) cameo
   - ____ b) radio
   - ____ c) igloo

WRITING 2.

1. What happened to Sonya once when she didn't have a comma?
   - ____ a) She ran out of gas.
   - ____ b) She sent too many items to a customer.
   - ____ c) Her supervisor tore up her report.
2. What was Freddy demonstrating that did not function properly?
   - ____ a) Acme Build-a-Shelf Kit
   - ____ b) Mitey-Mite Microwave Oven
   - ____ c) Dirteater Vacuum Cleaner

WRITING 3.

1. What was Sonya requesting in her letter to her employer?
   - ____ a) a day off for a trip in the country with Arthur
   - ____ b) a raise in salary
   - ____ c) a change to another department in the store
2. What was Arthur told after he delivered his manuscript right on deadline?
   - ____ a) Fine, now your contract will not be terminated.
   - ____ b) This is not acceptable. You must do it over by tomorrow.
   - ____ c) The publisher will review this when he returns from the Bahamas.

WRITING 4.

1. What were the two food dishes Arthur burned while he was helping Freddy?
   - ____ a) macaroni and cheese, and fish in wine sauce
   - ____ b) macaroni and cheese, and cabbage pizza
   - ____ c) fish in wine sauce, and cabbage pizza
2. How did Freddy repair Arthur's shaky table?
   - ____ a) He cut off a little piece of the leg.
   - ____ b) He placed a piece of folded paper under the leg.
   - ____ c) He tightened a loose screw in the leg.

WRITING 5.

1. What problem was Arthur having at his apartment?
   - ____ a) Water was dripping from the ceiling.
   - ____ b) The furnace was not working properly.
   - ____ c) The electricity kept going off.
2. What happened on the fifth floor at Sonya's work that involved Freddy and some customers?
   - ____ a) He was demonstrating a bicycle and ran into a woman and her son.
   - ____ b) He and some customers became trapped in the elevator.
   - ____ c) He and a customer helped deliver a baby.

WRITING 6.

1. What event was sponsored by Sonya's employer to raise money for a good cause?
   - ____ a) an employee talent show
   - ____ b) an employee style show
   - ____ c) a store wide sale with 20% of profit for charity
2. Arthur said he hoped Sonya was not leaving the U.S because she ...
   - ____ a) helped him be creative by playing the piano
   - ____ b) added color to a dull writer's existence
   - ____ c) gave him many good ideas for his book

WRITING 7.

1. Why did Arthur say his photos were all blurred?
   - ____ a) This made them more artistic.
   - ____ b) His camera was not focusing correctly.
   - ____ c) He had lost a contact lens and misplaced his glasses.

2. Why was Sonya writing an article for the newsletter about Mrs. Johnson?

____ a) She had been chosen department head of the month.
____ b) She had received a promotion for outstanding work.
____ c) She had represented her company at a national conference.

WRITING 8.

1. What did the publisher want Arthur to include in his book?

____ a) a chapter on how to complete a job application
____ b) a chapter on how the publisher became successful
____ c) a chapter on the art of publishing

2. Why was Sonya writing a letter to her employer?

____ a) to request permission to enter a supervisor training program
____ b) to request permission to enter a sales training program
____ c) to request permission to enter a time management training program

WRITING 9.

1. Why did Sonya write a letter to the Acme Demolition Company?

____ a) to protest all the noise
____ b) to ask them to pay for damage to her car
____ c) to request protective measures for the safety of Lacy's customers

2. What was the "souvenir" that Freddy gave to Arthur?

____ a) a gargoyle foot from the demolished building
____ b) window trim from the demolished building
____ c) a brass doorknob from the demolished building

WRITING 10.

1. What happened to Sonya when Mrs. Johnson was promoted?

____ a) Sonya became her assistant.
____ b) Sonya became her executive secretary.
____ c) Sonya was promoted to supervisor.

2. Why was Freddy given a 10% raise and promoted to foreman?

____ a) The company adopted his maintenance manual.
____ b) He finally passed his GED.
____ c) He did a good job repairing the elevators and boilers.

STUDENT NAME: ______________________ DATE: ____________
ADDRESS: ______________________ TELEPHONE: ____________

GED ON TV STUDENT RESPONSE SHEET PAGE 6

NAME: ______________________ DATE: ______________________

Please answer the following questions about the program to help us better serve you.

1. Do you find the television videos help you to better understand and respond to the exercises in the workbook? _____YES _____NO
2. Do you find the videos interesting? _____YES _____NO Comments: ______________________
3. Do you find the videos informative? _____YES _____NO Explain: ______________________
4. Have you experienced difficulty with your lessons: _____YES _____NO Please explain, giving page numbers and exercise numbers. ______________________

   Would you like for me to call you about these problems? _____YES _____NO
5. Have you received assistance with your studies? _____YES _____NO Who has helped you? ______________________
6. Is this program meeting your expectations? _____YES _____NO If NO, what needs to be done? How can we help you? ______________________
7. What do you like best about this program and why? ______________________
8. Please indicate which tests you have taken and the results. The score is optional.

READING_____	PASSED_____	FAILED_____	SCORE:_______
SCIENCE_____	PASSED_____	FAILED_____	SCORE:_______
SOCIAL STUDIES_____	PASSED_____	FAILED_____	SCORE:_______
WRITING_____	PASSED_____	FAILED_____	SCORE:_______
MATH _____	PASSED_____	FAILED_____	SCORE:_______

9. Approximately how much time does it take for you to complete each lesson, including the time spent watching television?_____________ Did you watch lessons more than once? _____YES _____NO
10. When do you normally view the television lesson? _____11 P.M. _____Sat. _____Sun. If you could choose the time the lessons are broadcast, when would it be? Why? ______________________

Thank you for your valuable time in responding to this questionnaire. Your input is very important not only to Odessa College, but also to all the other GED programs across Texas. You are helping us develop a program that has the potential for aiding thousands of Texans who need their GED but cannot attend regular classes.

REMEMBER, I am working for you! Any time you have concerns, questions, need assistance or just want to talk about the program or other educational programs at Odessa College, CALL ME at 335-6401 or stop by for a personal visit.

John D. Tucker
Special Project Coordinator

ODESSA COLLEGE
ADULT AND CONTINUING EDUCATION
201 WEST UNIVERSITY
ODESSA, TEXAS 79764

MEMORANDUM

TO: GED ON TV Students
FROM: John D. Tucker, Special Project Coordinator
DATE: February 10, 1987
RE: GED Practice test and GED Test Schedule

PRACTICE TEST:
Those students who wish to take a practice test before taking the actual tests may do so at the Adult Education Office in Annex A, 216 W. University. This is the building where you registered and picked up your books. The practice tests are administered on Wednesdays at 8:30 a.m., 1:30 p.m. and 6:30 p.m. There is no charge for this service.

GED TESTING:
The GED test dates and schedule are below. If you are planning on taking only specific tests, you need to arrive 30 minutes prior to the testing time listed. BE SURE TO CALL THE TESTING CENTER (335-6620 or 335-6622) EARLY ON THE DAY YOU WISH TO TEST TO SEE IF THERE IS SPACE AVAILABLE. You will need to bring a valid Texas Driver's License (with photo) OR a Texas Department of Public Safety photo I.D. If you don't have one of these, you will need a copy of your birth certificate and a recent photo, which will be placed in your testing file. IF YOU ARE 17 YEARS OLD, YOU WILL NEED WRITTEN PARENTAL CONSENT AND A WITHDRAWAL FORM FROM THE LAST SCHOOL YOU ATTENDED. The cost for the test is $17.00 if you pay for all tests up front. Individual tests cost $3.50. Personal checks are accepted with proper identification.

GED TEST DATES

Friday, February 6, 1987
Friday, February 13, 1987
Friday, February 20, 1987
Friday, February 27, 1987

Friday, March 6, 1987
Friday, March 13, 1987
Friday, March 20, 1987

Friday, April 3, 1987
Friday, April 10, 1987
THURSDAY, April 16, 1987
Friday, April 24, 1987

GED TESTING SCHEDULE

8:00 - 8:29	- Registration
8:30 - 9:45	- Writing Skills (1 hour 15 min.)
9:50 - 11:20	- Social Studies (1 hour 30 min.)
11:25 - 12:25	- Lunch
12:30 - 2:00	- Science Skills (1 hour 30 min.)
2:00 - 3:00	- Reading (1 hour)
3:00 - 4:30	- Math Skills (1 hour 30 min.)

STUDENT RESPONSE SHEET
AND
QUESTIONNAIRE FOR CONTACT HOURS
"GED ON TV" - MATH

Prepared as part of the 1986/1987 Special Project

DISTANCE LEARNING PROGRAM

FOR

DELIVERY OF ADULT BASIC AND SECONDARY EDUCATION

Funded by
The Division of Adult and
Community Education Programs
Texas Education Agency

John D. Tucker
Odessa College
Special Project Coordinator

ATTACHMENT D

ODESSA COLLEGE

(915) 335-6400
201 W. University
Odessa, Texas 79764

April 8, 1987

Dear GED on TV student:

The first broadcast of the GED on TV is now history! For the majority of those enrolled, the initial step toward achieving the goal of preparing for the GED exam has been completed. Of course, there are some who joined the program late or experienced temporary setbacks who still may need more time to prepare.

This letter will address both. First, those who have now completed all the exercises and feel that they are ready for the exams need to contact the GED Testing Center at 335-6620 and reserve a spot on their schedule. If you feel that you would like to take a practice test before attempting "the real thing", give me a call and I will schedule a time for the practice test. I would like to encourage you to complete your testing by April 24 so you can be included in our Special Adult Education Recognition Program on Saturday, May 9, 1987 at 3:00 p.m. If you have completed your test, or will by April 24, please give me a call as soon as possible, so I can get you the complete information on the Recognition Program.

Second, those who need more time to complete the studies or to review in more detail should give me a call and I will send you a new schedule for the second broadcast series that started Monday, April 6. We will be running the entire series from now through July 11. It will not be shown again until fall.

I have enclosed the questionnaire on the math and another comment page for you to fill out and return in the self-addressed postage paid envelope. Just a reminder that this information is confidential and is to help us better serve you and future students. I am also including a GED testing schedule for your convenience.

I would like to thank you for your participation in this exciting program and to encourage you to recommend the program to your friends and acquaintances who may need their GED. To those who have called and visited, it has been a pleasure to work with you. Congratulations on a job well done. I wish you every success in life.

Most sincerely,

John D. Tucker

John D. Tucker
Special Project Coordinator
335-6401

STUDENT VIEWING RESPONSE SHEET **GED ON TV**

ODESSA COLLEGE, ADULT BASIC EDUCATION, SPECIAL PROJECT, 201 W. UNIVERSITY, ODESSA, TX. 79764

Please choose the correct answer to the questions based upon the television lessons.

MATH 1.

1. According to David and Frank, what is a common denominator for cars and bikes?

____ a) vehicles
____ b) methods of transportation
____ c) wheels

2. How did Sue use fractions to work on one of her home projects?

____ a) to convert measurements for a cake recipe
____ b) to see if she had enough pint containers for her canning
____ c) to see if she had enough material for her sewing project

MATH 2.

1. What did David keep repeating to Martha as she struggled with the math problem?

____ a) " Don't tell me what you did; just do it. "
____ b) " Remember the rules from yesterday. "
____ c) " It will get easier the more you work at it. "

2. What is the name for the system Martha worked out on her own?

____ a) Fraction Family Replacements
____ b) General Case Statement for Addition and Subtraction of Fractions
____ c) Systematic Formula for Reduction of Fractions

MATH 3.

1. According to David, how many legs would a camel have if we called a hump a leg?

____ a) five if it were a dromedary camel
____ b) six if it were a Bactrian camel
____ c) only four; calling a hump a leg doesn't make it a leg

2. What did David tell Frank he could always expect in the class?

____ a) Some students will never learn fractions, regardless of the method used.
____ b) Students will always ask questions the teacher has not thought of.
____ c) There will always be one class clown.

MATH 4.

1. What example did Bill use to illustrate fraction families?

____ a) people and shoes
____ b) joggers and laps run
____ c) divisions of measurements on a yardstick

2. Why did Martha "freak out" when she saw the math test on the job application?
    ____ a) It contained nothing she had studied for.
    ____ b) It contained mixed numbers and she had not prepared for them.
    ____ c) Everything she had studied for was on the test.

MATH 5.

1. What did Frank offer David after work?
    ____ a) a ride home
    ____ b) to help develop new math charts
    ____ c) a cup of coffee and a half piece of pie
2. Why did Todd say someone called him collect from Alaska late one night?
    ____ a) to offer him a new job
    ____ b) to ask him about the hen and egg problem
    ____ c) to ask him about the fish problem

MATH 6.

1. What example was given to illustrate intuition?
    ____ a) Bill and Sue got the same answer using different methods.
    ____ b) a light bulb over Donald Duck's head in the cartoons
    ____ c) Sherlock Holmes' statement of "Elementary my dear Watson".
2. What very important concept did Frank present to the class?
    ____ a) cannot remember all the rules; must think, substitute knowns and use reason
    ____ b) cannot remember all the rules; must have a reference book handy
    ____ c) cannot remember all the rules; must rely on intuition 90% of time

MATH 7.

1. Frank inferred that the reason we use tens in the decimal system is...
    ____ a) original measuring devices used by Egyptians were in units of ten
    ____ b) dividing and multiplying by tens is very easy
    ____ c) humans have ten fingers
2. What comment did Sue make about being cheery?
    ____ a) It is hard to be cheery with all these numbers in my head.
    ____ b) It is hard to be cheery when I'm helping Martha with decimals at midnight.
    ____ c) Frank always runs a cheery class.

MATH 8.

1. What example was used to illustrate proportions?

   ____ a) comparing Bill's laps in jogging to Todd's
   ____ b) revolutions of bike pedals to revolutions of the wheels
   ____ c) comparing the amount of flour to other ingredients for a cake

2. What was Martha doing as she helped her neighbor with her math?

   ____ a) washing dishes
   ____ b) cooking dinner
   ____ c) canning beans

MATH 9.

1. What did Todd say the runners in Bill's Midnight Marathon should be called?

   ____ a) moonlight masochists
   ____ b) misguided muscles
   ____ c) night crawlers

2. What items from a bag were used to illustrate percentages?

   ____ a) marbles
   ____ b) coins
   ____ c) checkers

MATH 10.

1. What comment did Bill make about taxes?

   ____ a) There are more ways to figure taxes than there are ways to pay them.
   ____ b) The only things we're certain of are taxes and death.
   ____ c) I wish I could run from taxes as well as I can run these races.

2. Why was Martha in the paint store with Todd?

   ____ a) She was re-decorating her house and needed some paint.
   ____ b) He hired her to help with pricing of items for a sale.
   ____ c) She needed information on percentages of colors to make lighter paint shades.

MATH 11.

1. How long did Frank say the students had been using algebra?

   ____ a) since 7th grade
   ____ b) since 5th grade
   ____ c) since Kindergarten

2. What did a customer bring into Todd's store that required algebra for getting the measurements?

   ____ a) a fish with only the head measurement known
   ____ b) a problem to find the amount of paint to cover a deck over a patio
   ____ c) a problem to find the amount of wallpaper for an odd-shaped room

MATH 12.

1. How did Frank say we should treat the parenthesis in algebraic equations?

____ a) Disregard the numbers inside the parenthesis.

____ b) It is a package that says, "Open me first".

____ c) Functions inside the parenthesis should be worked last.

2. In the word association game, when Martha gave Bill the word FORMULA, what did he respond?

____ a) Similac

____ b) Pythagorean

____ c) Diapers

MATH 13.

1. What did Bill tell Todd about tennis and geometry?

____ a) There is no room for geometry in tennis.

____ b) Tennis was more fun before we used geometry.

____ c) Geometry has helped me improve my serve.

2. What did Frank tell Todd to unravel to understand the relationship of squares, rectangles and circles?

____ a) an orange

____ b) a ball of twine

____ c) the inside of a golf ball

MATH 14.

1. What hint did Frank give the class about the final quiz?

____ a) Remember Pythagoras

____ b) Remember Bill's metal bar.

____ c) Remember Todd's fish.

2. When Martha called Sue on the phone, what did she tell her?

____ a) You can pick up your canned beans now.

____ b) I'm having alligator problems.

____ c) Can you help me prepare for the final quiz?

MATH 15.

1. Who or what is the "James" in this lesson?

____ a) a consultant hired by the school to evaluate the math program

____ b) a special formula for solving calculus problems

____ c) an intellectual tool for getting into math problems

2. What present did the class give to Frank?

____ a) a wall hanging of the Pythagorean Theorem

____ b) a 58½ inch autographed cloth fish

____ c) a paper weight model of a hen and a half and an egg and a half

GED ON TV STUDENT RESPONSE SHEET PAGE 5

NAME: ______________________ DATE: ______________ ____
ADDRESS: ______________________ TELEPHONE: ______________________

Please answer the following questions about the program to help us better serve you and future GED on TV students.

1. On a scale of 1 to 5 please rate the following by circling your response. 1=low 5=high
   A. 1 2 3 4 5 The TV lessons helped me with the workbook exercises.
   B. 1 2 3 4 5 The workbooks contained sufficient information to allow me to do the work
   C. 1 2 3 4 5 The TV and workbook exercises were at a level I could understand.
   D. 1 2 3 4 5 The TV and workbook exercises were too easy for me.
   E. 1 2 3 4 5 The TV and workbook exercises were too advanced for me.
   F. 1 2 3 4 5 I feel that I did just as well as if I had been in a classroom.
   G. 1 2 3 4 5 I feel that I could have done better in a classroom.
   H. 1 2 3 4 5 I am satisfied with the assistance I received from the college staff.
   I. 1 2 3 4 5 I will recommend this program to others.
   J. 1 2 3 4 5 This program should be offered year round.
2. The programs I enjoyed most and learned the most from. (Please check)
   ______Reading ______ Science ______ Social Studies ______Writing ______Math
3. The program(s) I enjoyed least and learned the least from. (Please check)
   ______Reading ______ Science ______ Social Studies ______Writing ______Math
4. What did you like best about this program and why?______________________
   ____
5. What changes would you suggest for the program and why? ______________________
   ____
6. Please indicate which tests you have taken and the results. The score is optional.
   READING______ PASSED______ FAILED______ (SCORE:________)
   SCIENCE______ PASSED______ FAILED______ (SCORE:________)
   SOCIAL STUDIES______ PASSED______ FAILED______ (SCORE:______)
   WRITING______ PASSED______ FAILED______ (SCORE:________)
   MATH________ PASSED______ FAILED______ (SCORE:________)
7. Will you complete your testing by April 24? ______YES______NO
8. If you have passed or will pass your test by April 24, are you interested in being in the Adult Education Recognition Program on Saturday, May 9 at 3:00 p.m.?____YES____NO

PLEASE MAKE ANY COMMENTS YOU WISH ABOUT THE PROGRAM: ______________________

____

____

Thank you for taking time to fill in this and earlier questionnaires. Your input is very much appreciated. Remember that Odessa College is YOUR COLLEGE. Please call upon us for any additional needs you may have. We are pleased that we had the opportunity to serve you with GED on TV and look forward to working with you in the future. Please contact us if you have any concerns, questions or just want to visit. You are always welcome.

John D. Tucker
Special Project Coordinator
Odessa College
201 West University
Odessa, TX 79764
(915) 335-6401

SUPPLEMENTAL GUIDE
FOR
THE "GED ON TV" MATH WORKBOOK

Prepared as part of the 1986/1987 Special Project

DISTANCE LEARNING PROGRAM
FOR
DELIVERY OF ADULT BASIC AND SECONDARY EDUCATION

Funded by
The Division of Adult and
Community Education Programs
Texas Education Agency

John D. Tucker
Odessa College
Special Project Coordinator

SUPPLEMENT TO THE "GED ON TV" MATH WORKBOOK

This supplement has been prepared to assist instructors, support staff and students of the GED on TV series. Based upon the experiences of Odessa College's Special Project for Adult Basic Education 1986/1987, it was found that many students and instructional staff could benefit from more detailed explanations of the exercises in the workbook. This became apparent when students would call for assistance and a response was needed immediately. This supplement should save valuable time for those assisting as well as provide a rapid response to any questions students may ask. Additionally, it will provide detailed steps to solving the more difficult problems. In some instances, more than one procedure has been given for reaching the correct solutions. It should be noted that not all exercises have been given; only those that present medium to high levels of difficulty.

CHAPTER 1 (pages 10-12)

1) 8 pts. = 1 gallon : $\frac{8}{8} - \frac{3}{8} = \frac{5}{8}$ gallon

2) $\frac{16}{16}$ = whole cake : $\frac{16}{16} - \frac{1}{4} = \frac{16}{16} - \frac{4}{16} = \frac{12}{16}$: therefore, 12 people at party

3) No, because $\frac{1}{4} + \frac{1}{2} + \frac{1}{8} = \frac{7}{8}$ ...still had $\frac{1}{8}$ left.

5) Todd is right because $\frac{7}{8} = \frac{14}{16}$ or $\frac{1}{16}$ larger

6) $2\frac{1}{3} + 2\frac{3}{4} + 3\frac{1}{8} = 7\frac{29}{24} = 8\frac{5}{24}$ tons

7) $\frac{7}{8} \times 5 = \frac{35}{8}$ or $4\frac{3}{8}$ if left alone

$\frac{1}{2} \times 5 = 2\frac{1}{2}$ that Jenny "stole"

$4\frac{3}{8} - 2\frac{1}{2} = 1\frac{7}{8}$ in the pile

8) 400 + 200 + 150 = $750 ... we don't need the fractions to solve this one

4) David = 3; Frank = $3 + 2\frac{1}{8}$: Bill = $3 + 2\frac{1}{8} + \frac{3}{4} = 5\frac{7}{8}$ miles

CHAPTER 2 (pages 18-19)

8) This operation is fairly complex and several steps of elimination and trial and error need to be employed to reach the correct solution. It requires a good working knowledge of fractions and basic math.

A) convert $1\frac{1}{12}$ to $\frac{13}{12}$: work backwards : think: What number added to 4 gives 13? (9) ...put 9 over 12, then change to 4ths...get: $\frac{3}{4}$

B) convert $1\frac{1}{15}$ to $\frac{16}{15}$: work backwards : think: What numbers added together = 16? There are many combinations, but need numbers to be multiplied by 5 and 3. By process of elimination we get 5 X 2 = 10, and 3 X 2 = 6. 5 into 15 = 3, and 3 X 2 = 6, therefore, $\frac{2}{5}$ is top number. 3 into 15 = 5, and 5 X 2 = 10, therefore, $\frac{2}{3}$ is the bottom number.

C) $1\frac{5}{24} = \frac{29}{24}$; work backwards: What numbers added = 29: Again, there are many... but since we are given 6ths let's start there...6 into 24 = 4 ... think... 4 X 5 = 20: so, $\frac{5}{6}$ could be one of the #'s...that leaves 9...what number into 24 gives a factor of 9? 8 into 24 = 3, and 3 X 3 = 9: so, $\frac{3}{8}$ is other #.

D) What two #'s added = 11 ? (6 + 5): What number X 5 = 30? (6)...bottom # can be 6th : 5 into 30 = 6, and 6 X 1 = 6: so, top # = $\frac{1}{5}$: 6 into 30 = 5, and 5 X 1 = 5: so, bottom # = $\frac{1}{6}$

page 23

4) $\frac{x}{x} - \frac{1}{3} = \frac{1}{4} + \frac{1}{6}$: add $\frac{1}{4} + \frac{1}{6} = \frac{3}{12} + \frac{2}{12} = \frac{5}{12}$; now take ($-\frac{1}{3}$) to right side of the equation and add it to $\frac{5}{12}$: get $\frac{9}{12}$ or $\frac{3}{4}$: so, $\frac{3}{4} - \frac{1}{3} = \frac{1}{4} + \frac{1}{6}$

pages 26-27

6) change $1\frac{11}{21}$ to $\frac{32}{21}$: factors of 21 are (3) (7): so, place 7 under the 6 to get $\frac{6}{7}$: change to $\frac{18}{21}$: subtract 18 from 32 = 14: think, $\frac{14}{21}$ is equal to how many 3rds? 7 into 21 = 3, and 7 into 14 = 2 : so $\frac{2}{3}$ is answer. $\frac{2}{3} + \frac{6}{7} = 1\frac{11}{21}$

7) change $\frac{7}{9}$ to $\frac{21}{27}$: factors of 27 are (9) (3) : think, what number X 9 added to what number X 3 can be added to get 21?...9 X 2 = 18, and 3 X 1 = 3: 18 + 3 = 21. make the first fraction 3rds: 3 into 27 = 9, and 9 X 2 = 18, so, this # = $\frac{2}{3}$

9 into 27 = 3, and 3 X 1 = 3, so, this # = $\frac{1}{9}$

9) change fractions to 36ths: $2\frac{12}{36} + 3\frac{18}{36} + 4\frac{9}{36} + 2\frac{20}{36} = 11\frac{59}{36} = 12\frac{23}{36}$

10) change to 8ths: $2\frac{4}{8} + 3\frac{2}{8} - 1\frac{1}{8} = 4\frac{5}{8}$ lost: $198\frac{1}{4} - 4\frac{5}{8} = 193\frac{5}{8}$ lbs.

CHALLENGE: (PAGE 27)

a) identity element : $\square \times \bigcirc = \square$ only $\square \times 1 = \square$ so $\bigcirc = 1$

b) fill in 1's $\frac{\triangle}{\square} + \frac{1}{\bigcirc} = \frac{11}{1\triangle}$

c) deductive – $1\triangle$ must be larger than 11 so: $\triangle$ can be 2, 3, 4, 5, 6, 7, 8, 9

d) start with $\triangle = 2$ fill in $\frac{2}{\square} + \frac{1}{\bigcirc} = \frac{11}{12}$

e) $\square \times \bigcirc = 12$ factors of 12 (single digits) are 4×3 or 6×2

f) $\square \times 1 + \bigcirc \times 2 = 11$ (numerator)

g) think what number × 2 + what # × 1 = 11

$4 \times 2 = 8$ $3 \times 1 = 3$ $8 + 3 = 11$

h) $\bigcirc = 4$ $\square = 3$

i) fill in to check $\frac{2}{3} + \frac{1}{4} = \frac{11}{12}$ $\frac{8}{12} + \frac{3}{12} = \frac{11}{12}$ OK ✓

CHAPTER 3

page 34

3) A) divide 14 by 3 to get whole number... 4 with $\frac{2}{3}$ left

B) think: 3 times what number, plus 7 = 43? subtract 7 from 43, get 36. Now divide 36 by 3, get 12, so, 12 is denominator: $3\frac{7}{12} = \frac{43}{12}$

C) divide 41 by 9 to get whole number... 4 with 5 left = $4\frac{5}{9}$

D) change $5\frac{1}{3}$ to improper fraction : $\frac{16}{3}$: think, 3 times what number added to 7 gives 16? Subtract 7 from 16 = 9 : divide 9 by 3 = 3 : therefore, denominator is 3 : $3\frac{7}{3} = 5\frac{1}{3}$

E) change $4\frac{1}{2}$ to $\frac{9}{2}$: change 2 to $\frac{4}{2}$: subtract, $\frac{9}{2} - \frac{4}{2} = \frac{5}{2}$: Now, $\frac{5}{2}$ = 10 over what? $(\frac{10}{4})$ so, correct answer is $2\frac{10}{4} = 4\frac{1}{2}$

page 40

7) ? $- 2\frac{1}{3} = 3\frac{1}{2}$: move $2\frac{1}{3}$ to right side and add: get $5\frac{5}{6}$; check: $5\frac{5}{6} - 2\frac{1}{3} = 3\frac{1}{2}$

8) $8\frac{1}{2} + 6\frac{3}{4} + 6\frac{3}{4} + 1\frac{1}{4} = 21\frac{9}{4} = 23\frac{1}{4}$

9) 350 divided by 6 = $58\frac{1}{3}$ but would need to buy 59 pies

10) $\frac{3}{4}$ by 8 plus $\frac{3}{4}$ by 8 = $1\frac{1}{2}$ by 8 : $1\frac{1}{2}$ by 4 plus $1\frac{1}{2}$ by 4 = $1\frac{1}{2}$ by 8
added together we get 3ft. wide by 8 ft. long: leaves 1 ft. by 8 ft.

11) $2\frac{1}{2}$ times 3 = $7\frac{1}{2}$: $3\frac{3}{4}$ times 2 = $7\frac{1}{2}$: add and we get 15 pints

12) 2 gallons = 16 pints, therefore, 1 pint is left

EXTENDING YOUR UNDERSTANDING (page 41)

Hen and egg problem: 1 hen divided by $1\frac{1}{2}$ eggs = $\frac{2}{3}$ egg per hen per day
6 hens times $\frac{2}{3}$ egg = 4 eggs per day for 6 hens
12 eggs divided by 4 eggs per day = 3 days to do the job!

page 44

6) ? $+ 1\frac{1}{3} = 7\frac{1}{2} + 4\frac{1}{5}$: lowest common denominator is 30: change: $1\frac{10}{30} = 7\frac{15}{30} + 4\frac{6}{30}$
move $1\frac{10}{30}$ to right side and subtract: $11\frac{21}{30} - 1\frac{10}{30} = 10\frac{11}{30}$ is the answer.
check: $10\frac{11}{30} + 1\frac{10}{30} = 7\frac{15}{30} + 4\frac{6}{30}$
$11\frac{21}{30} = 11\frac{21}{30}$ (O.K.)

CHAPTER 4 (pages 53-54)

7) $? + \frac{1}{3} = \frac{1}{2} + \frac{5}{6}$: lowest common denominator is 6 : change to 6ths

$? + \frac{2}{6} = \frac{3}{6} + \frac{5}{6}$: move $\frac{2}{6}$ to right side and subtract it

$? = \frac{8}{6} - \frac{2}{6} = \frac{6}{6}$ or 1

8) 1 qt. = $\frac{1}{4}$ gallon : 8 pints = 1 gallon : 4 qts. = 1 gallon

6 cans are pints = $\frac{3}{4}$ gallon, leaving $4\frac{1}{2}$ gallons and 6 cans

estimate using larger measurement 1st : 3 gallon cans leaves 3 cans and $1\frac{1}{4}$ gal.

use 2 half-gallon cans : leaves $\frac{1}{4}$ gal. and 1 can : would be 1 qt. for last can

9) Sue = sister + $4\frac{1}{2}$: sister = brother - $1\frac{1}{2}$: brother = 30

sister = 30 - $1\frac{1}{2}$ = $28\frac{1}{2}$ Sue = $28\frac{1}{2} + 4\frac{1}{2}$ = 33 yrs. old

10) $\frac{26}{26}$ = all people : $\frac{15}{26}$ = women : $\frac{26}{26} - \frac{15}{26} = \frac{11}{26}$ (men)

11) 4 days X 2 trips (4 ½ + 4 ½) = 4 X 9 = 36 blocks : 12 blocks = 1 mi. $\frac{36}{12}$ = 3 miles

EXTENDING YOUR UNDERSTANDING (page 54)

1-A) change all to 12ths and $1\frac{11}{12}$ to $\frac{23}{12}$: answer will be $\frac{23}{12}$

$\frac{6}{12} \quad \frac{8}{12} \quad \frac{9}{12} = \frac{23}{12}$: will need to add all numerators to get 23

1-B) change all to 12ths: $\frac{6}{12} \quad \frac{8}{12} \quad \frac{9}{12}$: which combination minus what number = 5 ?

6 + 8 = 14 : 14 - 9 = 5 : therefore, $\frac{6}{12} + \frac{8}{12} - \frac{9}{12} = \frac{5}{12}$

1-C) change to 12ths : $\frac{6}{12} \quad \frac{8}{12} \quad \frac{9}{12} = \frac{7}{12}$: which combination minus what number = 7 ?

6 + 9 = 15 : 15 - 8 = 7 : therefore, $\frac{6}{12} - \frac{8}{12} + \frac{9}{12} = \frac{7}{12}$

CHAPTER 5 (pages 58-59)

7) 36 X $\frac{2}{3}$ = 24

8) $\frac{7}{8}$ X $\frac{1}{2} = \frac{7}{16}$

9) $7\frac{1}{2}$ X $\frac{2}{3} = \frac{15}{2}$ X $\frac{2}{3}$ = 5 tons in 1st truck : $7\frac{1}{2} - 5 = 2\frac{1}{2}$ tons in second truck

10) 14 divided by $\frac{3}{4}$ = 14 X $\frac{4}{3} = \frac{56}{3} = 18\frac{2}{3}$ gallons

page 65

1) $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$ of her week : leaves $\frac{1}{4}$: $\frac{1}{4}$ X 40 = 10 hours per week

2) 48 divided by $\frac{1}{2}$ is same as 48 X 2 = 96

3) 120 divided by $\frac{3}{8}$ is same as 120 X $\frac{8}{3}$ = $320

4) 12 divided by $\frac{1}{8}$ is same as 12 X 8 = 96 cans

5) $4\frac{1}{2}$ X .96 = $\frac{9}{2}$ X .96 $= \$4.32$

6) Martha = $3\frac{1}{4}$: Sue = $3\frac{1}{4} \text{ X } \frac{1}{3} = \frac{13}{12} = 1\frac{1}{12}$: Todd = $3\frac{1}{4} \text{ X } 2 = 6\frac{1}{2}$

Bill = $6\frac{1}{2} \text{ X } \frac{3}{4} = \frac{39}{8}$ or $4\frac{7}{8}$

7) 24 divided by $3\frac{1}{2} = 24 \text{ X } \frac{2}{7} = \frac{48}{7} = 6\frac{6}{7}$: so, only 6 complete costumes

CHAPTER 6

page 71: 5) There are two methods for solving this problem:

a) $\frac{x}{2} \quad 2\frac{1}{3} = 3$: $\frac{x}{2} \text{ X } \frac{3}{7} = 3$: $\frac{3x}{14} = 3$: multiply both by 14 : 3x = 42 : x = 14

b) $\frac{\frac{x}{2}}{2\frac{1}{3}} = 3$ (multiply both sides by $2\frac{1}{3}$): $\frac{x}{2} = 3 \text{ X } 2\frac{1}{3}$: $\frac{x}{2} = 7$: multiply both by 2: get, x = 14

6) 16 divided by $\frac{2}{3} = 16 \text{ X } \frac{3}{2} = 24$ pearls

7) 3 divided by $\frac{1}{3}$ is same as 3 X 3 = 9 quarters

page 77

5) remember $\frac{1}{3}$x is same as $\frac{x}{3}$: $\frac{x}{3} = \frac{8}{2} + 2$: $\frac{x}{3} = 6$: multiply both by 3 : x = 18

6) $4\frac{1}{2} \text{ X } 6 = \frac{9}{2} \text{ X } 6 = 27$ hours

7) Jimmy is 5 : 5 $\frac{1}{6}$ is same as 5 X 6 : so, David is 30

$\frac{\text{Jimmy} + 5}{\text{David} + 30} = \frac{1}{2}$: $\frac{5 + x}{30 + x} = \frac{1}{2}$: cross multiply, get : 10 + 2x = 30 + x
move x to left, 10 to right, subtract both
2x - x = 30 - 10 : x = 20 years later
Jimmy = 5 + 20 = 25 : David = 30 + 20 = 50

8) $\frac{3}{4} \quad \frac{1}{32}$ is same as $\frac{3}{4} \text{ X } 32 = 24$

9) 56 $\frac{7}{8}$ is same as $56 \text{ X } \frac{8}{7} = 64$

10) $1\frac{1}{2} \text{ X } \frac{3}{4} = \frac{3}{2} \text{ X } \frac{3}{4} = \frac{9}{8}$ or $1\frac{1}{8}$ million

CHAPTER 7 (page 92)

6) 20% = .20 : so, .20 times ? = 2.4 + 1.6 : .20x = 4 : divide 4 by .20 = 20

CHAPTER 8

page 97 5) let n = number : $.25n = .50n - 10$
move .25n to right; -10 to left; change signs
$10 = .50n - .25n$
$10 = .25n$: divide .25 into 10: get $n = 40$
can be solved this way also: let n = the number
$\frac{1}{4} n = \frac{1}{2} n - 10$: this is same as $\frac{n}{4} = \frac{n}{2} - 10$: multiply both sides by 4 :
$4 \left(\frac{n}{4} \right) = 4 \left(\frac{n}{2} - 10 \right) = n = 2n - 40$: subtract n from both sides, move -40 to the left and change sign:
$40 = n$: check $\frac{40}{4} = \frac{40}{2} - 10$: $10 = 20 - 10$: $10 = 10$ (OK)

7) $\frac{7}{385} = \frac{1}{n}$: cross multiply : $7n = 385$: divide by 7, get $n = 55$ miles

8) $\frac{75\%}{300} = \frac{100\%}{n}$: cross multiply : $75\% \, n = 30{,}000$: divide by 75, get: $n = 400$
(or) : $\frac{.75}{300} = \frac{1}{n}$: cross multiply : $.75 \, n = 300$: divide by .75, get: $n = 400$

page 100 - 102

1) A) $\frac{5}{10} = \frac{1}{2} = 1:2$ B) $\frac{13}{52} = \frac{1}{4} = 1:4$ C) $\frac{\frac{3}{4}}{\frac{7}{8}} = \frac{3}{4} \times \frac{8}{7}$: cancel out, get: $\frac{6}{7} = 6:7$

2) A) $\frac{4}{7} = \frac{n}{2.3}$: cross multiply: $7n = 9.2$: $n = 1.31$

B) $\frac{6.3}{2.5} = \frac{14}{n}$: cross multiply: $6.3 \, n = 35$: $n = 5.555$

C) $\frac{.35}{7} = \frac{n}{2.4}$: cross multiply: $7n = .84$: $n = .12$

D) $\frac{\frac{2}{3}}{\frac{5}{8}} = \frac{\frac{3}{4}}{n}$: cross multiply: $\frac{2}{3} n = \frac{5}{8} \times \frac{3}{4}$: $\frac{2}{3} n = \frac{15}{32}$: divide both by $\frac{2}{3}$:
$n = \frac{15}{32} \times \frac{3}{2} = n = \frac{45}{64}$

E) $\frac{2}{7.3} = \frac{n}{4}$: cross multiply: $7.3n = 8$: $n = 1.09$: round off = 1.1 (or) $1 \frac{1}{10}$

F) $\frac{6.3}{\frac{2}{3}} = \frac{n}{4}$: cross multiply: $\frac{2}{3} n = 25.2$: divide both by $\frac{2}{3}$: $n = 25.2 \times \frac{3}{2} = 37.8$

3) A) $n - 3.6 = 14.3$
$n = 14.3 + 3.6$
$n = 17.9$

B) $4.6 \times n = 10.58$
$n = 10.58 \div 4.6$
$n = 2.3$

C) $n \div 4.3 = 5.7$
$n = 5.7 \times 4.3$
$n = 24.51$

D) $n \times 10.4 = 2.6$
$n = 2.6 \div 10.4$
$n = .25$

CHAPTER 8 (page 104)

#2) I had several calls on how the book arrived at the answer given, so I decided to add this page to explain. One rule for dividing decimals is simple: When you are not told the exact number of places to carry your answer, it is seldom useful to go beyond three places. Another rule : when (if) you see that the answer starts repeating, express the remainder as a fraction of the divisor.

2-A) $.36\overline{)24}$: move decimal..

$$\begin{array}{r} 66.66 \\ 36\overline{)2400.00} \\ \underline{216} \\ 240 \\ \underline{216} \\ 240 \\ \underline{216} \\ 240 \\ \underline{216} \\ 24 \end{array}$$

answer keeps repeating 6666666

so it is best to express remainder as $\frac{24}{36}$ which is $\frac{2}{3}$: ANSWER: $66.66\frac{2}{3}$

2-B) $1.2\overline{)3.7}$: move decimal..

$$\begin{array}{r} 3.083 \\ 12\overline{)37.000} \\ \underline{36} \\ 1\ 00 \\ \underline{96} \\ 40 \\ \underline{36} \\ 4 \end{array}\ \text{R}\ \frac{4}{12}$$

(or) $3.083\,\frac{1}{3}$

answer starts repeating 333333 etc.
express remainder as fraction

2-C) $.07\overline{)2.08}$: move decimal..

$$\begin{array}{r} 29\ \frac{5}{7} \\ 7\overline{)208} \\ \underline{14} \\ 68 \\ \underline{63} \\ 5 \end{array}$$

If carry out will get, 29.714571457145...

make fraction of remainder of 5 = $\frac{5}{7}$

2-D) $12.6\overline{).35}$: move decimal..

$$\begin{array}{r} .0277\ \frac{7}{9} \\ 126\overline{)3.5000} \\ \underline{2\ 52} \\ 980 \\ \underline{882} \\ 980 \\ \underline{882} \\ 98 \end{array}$$

answer starts repeating 777777etc.
express remainder as fraction: $\frac{98}{126}=\frac{7}{9}$

2-E) $.004\overline{)27}$: move decimal.. $4\overline{)27000.}$ (answer comes out even: 6750)

2-F) $.14\overline{)73}$: move decimal..

$$\begin{array}{r} 521.428\ \frac{4}{7} \\ 14\overline{)7300.000} \\ \underline{70} \\ 30 \\ \underline{28} \\ 20 \\ \underline{14} \\ 60 \\ \underline{56} \\ 40 \\ \underline{28} \\ 120 \\ \underline{112} \\ 8 \end{array}$$

three places is far enough: express remainder as a fraction:

$\frac{8}{14} = \frac{4}{7}$

CHAPTER 8 (pages 104-105)

4) A) $\dfrac{\frac{2}{3}}{\frac{3}{4}} = \frac{2}{3} \div \frac{3}{4} = \frac{2}{3} \times \frac{4}{3} = \frac{8}{9}$ = 8:9 B) $\dfrac{\frac{5}{8}}{4} = \frac{5}{8} \div \frac{4}{1} = \frac{5}{8} \times \frac{1}{4} = \frac{5}{32}$ = 5:32

C) $\dfrac{5}{1\frac{1}{3}} = \frac{5}{1} \div 1\frac{1}{3} = \frac{5}{1} \div \frac{4}{3} = \frac{5}{1} \times \frac{3}{4} = \frac{15}{4}$ = 15:4

5) A) $\frac{3}{2.5} = \frac{n}{7}$: $2.5n = 21$: $n = 8.4$ B) $\dfrac{1\frac{1}{8}}{4} = \frac{9}{n}$ :: $1\frac{1}{8}n = 36$: $n = \frac{36}{1} \times \frac{8}{9}$: $n = 32$

C) $\frac{5}{2.3} = \frac{n}{7}$: $2.3\, n = 35$: $n = 15.22$

6) A) $4.5 \div n = .72$
~~n = .72 X 4.5~~
~~n = 6.25~~
* See below!

B) $\frac{3}{8} \times n = .09$
$n = .09 \div \frac{3}{8}$
$n = .09 \times \frac{8}{3}$
$n = .24$

C) $n \div 3 = 50$
$n = 50 \times 3$
$n = 150$

7) 3 by 5 enlarged to n by 18 is $\frac{3}{5} = \frac{n}{18}$: $5n = 54$: $n = 10.8$ or $10\frac{80}{100}$ or $10\frac{4}{5}$ inches

8) $\frac{1.00}{.05}$ = 20 to 1 ratio : $\frac{.05}{1.00}$ = 5% savings

9) A) 50 X .140 = 7 hits B) 84 X .286 = 24 hits C) 21 ÷ .244 = 86 times at bat
D) 27 ÷ 92 = .293 average E) 16 ÷ .229 = 70 times at bat

10) $12\frac{1}{2} \times 10\frac{1}{3} = \frac{25}{2} \times \frac{31}{3} = \frac{775}{6} = 129\frac{1}{6}$ ft.

CHAPTER 9 (page 109)

5) $.20\, n = .10\,(100) + 1$: $.20n = 10 + 1$: $.20n = 11$: $n = 55$

6) 260 X .40 = 104

7) $\frac{78}{80}$ = 97.5 %

8) 160 ÷ .40 = 400 gallons

page 114

4) 50% of 48 = 24 : 24 + 3 = 27 : $\frac{27}{90}$ = .30 (or) 30%

5) 37.5% of 40 = 15 when Todd is 40: 15 - 10 = 5 years old now

6) 12,000 X 75% = $9,000 7) 140 ÷ 160 = 87.5 %

8) 27.5 - 22 = 5.5 more : 5.5 ÷ 22 = 25% more

9) $\frac{250}{300} = 83\frac{1}{3}$ % paid : $\frac{50}{300} = 16\frac{2}{3}$ % savings 10) $\frac{12}{.40}$ = 30 years old now

* 6. A) $4.5 \div n = .72$
$\frac{4.5}{n} = \frac{.72}{1}$. (OR)
$.72n = 4.5$
$n = 6.25$

$4.5 \div n = .72$
to get step one - multiply both sides by "n"
8
$4.5 = .72n$
$6.25 = n$

CHAPTER 10

page 119

5) \$500 X .10 = \$50 : 500 + 50 = \$550 : 550 ÷ 12 = \$ 45.83 per month

6) $5\frac{1}{2}\%$ = .055 : \$800 X .055 = \$ 44 interest

7) a) 1000 X .12 = \$120 interest to pay on loan
   b) 1000 X .05 = \$ 50 interest earned on savings
   c) He would lose \$ 70 on this transaction

8) \$3000 X .10 X 3 years = \$900

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4) A) \$6 + \$3 = \$9 : $\frac{\$3}{\$6}$ = 50% : \$9 X .30 = \$2.70 : \$9 - \$2.70 = \$6.30 sale price

B) \$10.64 - \$3.64 = \$7 cost : $\frac{\$3.64}{\$7}$ = 52% mark up rate : \$10.64 X .30 = \$3.19 discount
10.64 - 3.19 = \$7.45 sale

C) $\frac{\$4.46}{\$9.30}$ = 48% mark up : 9.30 + 4.46 = \$13.76 selling price

13.76 X .30 = \$4.13 , 13.76 - 4.13 = \$9.36 sale price

D) $\frac{16.79}{146\%}$ = \$11.50 cost : 11.50 X .46 = \$5.29 mark up : 16.79 X .30 = \$5.04 discount
16.79 - 5.04 = 11.75 sale

E) $\frac{5.51}{10.20}$ = 54% mark up : 10.20 + 5.51 = \$15.71 selling price

15.71 X .30 = 4.71 discount, 15.71 - 4.71 = \$11.00 sale price

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7) 40% - 35% = 5% (.05) : 5% of total is \$5.00 : $\frac{\$5.00}{.05}$ = \$100.00 selling price

8) $\frac{3}{\$1200} = \frac{20}{N}$: 3N = 24,000 : N = \$ 8,000

9) $\frac{\cancel{1200}^{12}}{1} \text{ X } \frac{14}{\cancel{100}_{1}} \text{ X } \frac{3}{1}$ = \$504 (OR) 1200 X .14 X 3 = \$504

10) $\frac{300}{.08}$ = \$ 3750

CHAPTER 11

page 133

8) A) 7 + N = 12 : subtract 7 from both sides : N = 5

B) 2W = 14 : divide both sides by 2 : W = 7

C) 2N - 5 = 12 + N : subtract N from both sides, add 5 to both : N = 17

D) $\frac{4Q}{2}$ = 17 - 12 : subtract 12 from 17 , multiply both sides by 2 : 4Q = 10 : Q = $2\frac{1}{2}$

10) $\frac{\text{20 gallons}}{\text{-4 per day}}$ = -5 days : count backwards Sat, Fri, Thu, Wed, Tue. he started

page 137

7) A) 3 + N = 17 : subtract 3 from both sides : N = 14

B) 7 - W = 4 : add W to both sides, subtract 4 from both : 3 = W

C) 3Q = 15 : divide both by 3 : Q = 5

D) $\frac{Z}{4} = \frac{16}{2}$: cross multiply : 2Z = 64 : divide both by 2 : Z = 32

8) A = 4, B = 5, Q = 9

A) B - Q = 5 - 9 = (-4)

B) $\frac{A + B}{Q} = \frac{4 + 5}{9} = \frac{9}{9} = 1$

C) 2A - B = 2 (4) - 5 = 8 - 5 = 3

D) 2A + 3B - Q = 2 (4) + 3 (5) - 9 = 8 + 15 - 9 = 32 - 9 = 14

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PRACTICE: 1) 3W + 7 = 25
3W = 25 - 7
3W = 18
divide both by 3
$\frac{\cancel{3}W}{\cancel{3}} = \frac{\cancel{18}}{\cancel{3}}6$ W = 6

2) P + 7 = 3
P = 3 - 7
P = (-4)

3) 4X + 9 = X - 3
subtract X from both, 9 from both
4X - X + 9 - 9 = X - X - 3 - 9
3X = - 12
divide both by 3
X = -4

4) 12 - Z = 5
subtract 5 from both, add Z to both
12 - 5 - Z + Z = 5 - 5 + Z
7 = Z

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6) 57¢ - $14.00 = - $13.43

7) Todd's score = + 28 - 35 + 17 - 25 : = 45 - 60 = -15

8) 8 more than 5 less than 2 = +8 +2 - 5 : + 10 - 5 = 5

9) (+6) times (- 20) = X : +6 X -20 = - $120 (or) $120.00 lost

CHAPTER 12 (ALGEBRA)

page 148 - 149

2) A) N + 6 = 0 : subtract 6 from both sides : N = -6

B) N • 4 = 0 : divide both by 4 get $\frac{\cancel{4}N}{\cancel{4}} = \frac{0}{4}$: N = $\frac{0}{4}$ = N = 0

C) 2N - 6 = N : subtract N from both, add 6 to both : N = 6

D) 3N - 2 = 2N + 1 : move 2N to left and subtract, move -2 to right and add:
3N - 2N = 1 + 2 : N = 3

8) N (2) + 2 = N (3) - 4
2N + 2 = 3N - 4
subtract 2N from both sides, add 4 to both sides
6 = N

9) Martha = N Sue = N + 5
N + (N + 5) = 19
subtract 5 from both sides
2N = 14 ; divide both by 2
N = 7 (Martha) 7 + 5 = 12 (Sue)

10) o = 3p ; p = 2a : one apple in terms of oranges?
o = 3 times 2a
o = 6a ; divide both sides by 6

$\frac{o}{6} = a$

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1) A) Q + 5 = 0 (subtract 5 from both sides)

$$\begin{array}{lcr} Q + 5 & = & 0 \\ -5 & & -5 \\ \hline Q & = & -5 \end{array}$$

B) 3X + 5 = 14 (subtract 5 from both sides)

$$\begin{array}{lcr} 3X + 5 & = & 14 \\ -5 & & -5 \\ \hline 3X & = & 9 \\ X & = & 3 \end{array}$$

(divide both by 3)

C) 2Y ÷ 7 = 10 (multiply both by 7)
2Y = 70 (divide both by 2)
Y = 35

D) 2Z + Y = 19

$$\begin{array}{lcr} 2Z + Y & = & 19 \\ Z + Y & = & 12 \\ \hline Z & = & 7 \end{array}$$

(subtract bottom from top)

(substitute 7 for Z in Z + Y = 12 ; 7 + Y = 12 ((subtract 7 from both)

$$\begin{array}{lcr} 7 + Y & = & 12 \\ -7 & & -7 \\ \hline Y & = & 5 \end{array}$$

Check by substituting in top equation: 2(7) + 5 = 19
14 + 5 = 19 (O.K.)

3) Q = Y + 3

A) Q = 6 (substitute Y + 3 for Q) Y + 3 = 6 (subtract 3 from both)

$$\begin{array}{lcr} Y + 3 & = & 6 \\ -3 & & -3 \\ \hline Y & = & 3 \end{array}$$

B) Q = 9 (sub Y + 3 for Q) Y + 3 = 9 (subtract 3 from both) get Y = 6

C) Q = Z (sub Y + 3 for Q) Y + 3 = Z (subtract 3 from both) get Y = Z - 3

D) Q = -4 (sub Y + 3 for Q) Y + 3 = -4 (subtract 3 from both) get Y = -7

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1) beans (b) + tomatoes (t) + peaches (p) = 24
3 cans b = 3p 2 cans t = 2p 1 can p = p (add together: 3p + 2p + p = 24)
6p = 24 ; p = 4 cans peaches: 3p = 3 X 4 = 12 cans beans : 2p = 2 X 4 = 8 tomatoes
add: 4 + 12 + 8 = 24 (OK)

2) $V = \pi r^2 1 = V = \frac{22}{7} \text{ X } 2^2 \text{ X } 18 = \frac{22}{7} \text{ X } 4 \text{ X } 18 = \frac{22}{7} \text{ X } 72 = \frac{1584}{7} = 226.29$ cu. in.

3) X = width 2X = length; formula is 2 W + 2 L = 24
X + X + 2X + 2X = 24
6X = 24
X = 4 (width) 2X = length, so 2 X 4 = 8 (length), now substitute to check:
4 + 4 + 8 + 8 = 24 : 24 = 24 (OK)

4) Boys + Girls = 14 : substitute given on girls in relation to boys:
girls = 2 times boys minus 1 (2B - 1)
B + 2B - 1 = 14
3B -1 = 14 (now add 1 to both sides)
+1 +1
3B = 15 (divide both by 3) B = 5 (boys)
Now sub 5 for B get: 5 + G = 14 (subtract 5 from both) get: G = 9 (girls)
To check substitute numbers for letters in boy girl equation: B + 2B - 1 = 14
5 +(2 X 5) - 1 = 14
5 + 10 - 1 = 14 : 15 - 1 = 14 (OK)

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Practice examples at bottom of page:
1) add 9 to both sides : get X = 5
2) divide both sides by 3 : get X = 7
3) subtract 6 from both, divide both by 2 : get N = 5
4) add 3 to both, subtract 3N from both: get N = 3 (also may do both at once by adding 3 - 3N to both sides)

page 155 (practice example)

1)(89¢)(3 + 2 + 3)
(89¢)(8) (or) (.89)(8)
$7.12

page 157

1) 2W - 2V = 8 (a) multiply bottom by 2 : 2W + 2V = 16
W + V = 8 (b) add this to top to get rid of V : 2W - 2V = 8
2W + 2V = 16
4W = 24
W = 6

(c) sub 6 for W to get V: 6 + V = 8 (subtract 6 from both sides)
-6 -6
V = 2

(d) Check by substitution in top equation: (2)(6)-(2)(2)=8
12 - 4 =8 (O.K.)

CHAPTER 12 (page 158 Square Root)

1) A) 841 Think: 20 X 20 = 400
30 X 30 = 900
841 is closer to 900
What # squared ends in 1?
is (1) or (9)
since it is close to 30 X 30, use 9
29 X 29 = 841

B) 1296 Think: 30 X 30 = 900
40 X 40 = 1600
1296 is about midway but little closer to 1600
What number squared ends in 6?
is (4) or (6)
since it is closer to 1600, use 6
36 X 36 = 1296

C) 9604 Think: 90 X 90 = 8100
100 X 100 = 10,000
9604 is closer to 10,000
What number squared ends in 4?
is (2) or (8)
since it is closer to 10,000, use 8
98 X 98 = 9604

D) 3481 Think: 50 X 50 = 2500
60 X 60 = 3600
3481 is closer to 3600
What number squared ends in 1?
is (1) or (9)
since it is closer to 3600, use 9
59 X 59 = 3481

page 159 (powers)

2) A) 6^3 is same as 6 X 6 X 6 = 216 : also can be 6^2 X 6 = 216

B) 3^6 is same as 3X3X3X3X3X3 = 729 : also can be 3^2 X 3^2 X 3^2 = 9 X 9 X 9 = 729
also can be expressed as 3^3 X 3^3 = 27 X 27 = 729

C) 5^4 is same as 5 X 5 X 5 X 5 = 625 : also can be 5^2 X 5^2 = 25 X 25 = 625

D) 10^9 is same as 10 X 10 nine times: easier rule for 10's is to add the number of zeros indicated by the exponent (power) In this case add 9 zeros to 10;
10^9 = 10,000,000,000

3) $4X + Y = 15$ (a) multiply bottom by -2 : get $-2X - Y = -10$

$X + \frac{Y}{2} = 5$ (b) add bottom to top :

$$\begin{array}{rcll} 4X + Y & = & 15 & \\ -X - Y & = & -10 & \\ \hline 3X & = & 5 & \text{(divide both by 3)} \\ X & = & 2\tfrac{1}{2} & \text{(or) } \frac{5}{2} \end{array}$$

(c) sub $\frac{5}{2}$ for X in bottom: $\frac{5}{2} + \frac{Y}{2} = 5$ (multiply both by 2)

$5 + Y = 10$ (subtract 5 from both sides)

$Y = 5$

(d) check by substitution in top: $(4)(\frac{5}{2}) + 5 = 15$

$(10) + 5 = 15$ (O.K.)

page 159 (Pythagorean Theorem)

1) $c^2 = 8^2 + 8^2$: $c^2 = 64 + 64 = 128$

2) $c^2 = 14^2 + 10^2$: $c^2 = 196 + 100 = 296$: $c = \sqrt{296} = 17.2$

3) $a^2 = c^2 - b^2$: $a^2 = 225 - 81$: $a^2 = 144$

4) $a = \sqrt{144} = 12$

pages 160-161 (cumulative quiz)

1) A) $(-7) - (-7) = -7 + 7 = \underline{0}$ (when subtract need to change signs and add)

B) $10 + (3 - 2 \times 4) = 10 + (3 - 8) = 10 + (-5) = \underline{5}$ (do multiplication 1st in ()

C) $-8 \times 4 + (2 - 6) = -32 + (-4) = -36$

D) $-6 - 4 + 5 + 5 \times 2 = -6 - 4 + 5 + 10 = -10 + 15 = \underline{5}$

4) A) $C + T = W$ FIND T : subtract C from both, get: $T = W - C$

B) $W + 2D = Z$ FIND D : subtract W from both, divide both by 2, get: $D = \frac{Z - W}{2}$

C) $Z^2 = N^2 + B^2$ FIND Z: take sq. root of both sides : $Z = \sqrt{N^2 + B^2}$

D) $V = \frac{A}{D}$ FIND A : multiply both sides by D ; $A = DV$

6) X = the number : $(3)(X) = 45 + 6$

$$\begin{array}{rcll} 3X & = & 51 & \text{(divide by 3)} \\ X & = & 17 & \end{array}$$

7) G = geraniums; P = peonies : Formula is

$$\begin{array}{rcll} 3G + 2P & = & \$5.30 & \\ G + 2P & = & \$2.60 & \text{(subtract bottom from top)} \\ \hline 2G & = & \$2.70 & \end{array}$$

8) very easy: add like items: 9 apples, 9 pears, 6 oranges

CHAPTER 13 (GEOMETRY)

page 170 - 171)

1-A) $\angle$ CAB = 20°: $\angle$ DAB = 42° : What is $\angle$ DAC _____ DAB - CAB = DAC
$42° - 20° = 22°$

1-B) $\angle$ a = 45° : $\angle$ b = 45° : What are $\angle$'s c & d ? : sum of angles in rectangle = 360°
opposite angles of rectangle are equal: $a + b = 90°$: $c + d = 360° - 90° = 270°$
$270° \div 2 = 135°$ for c and 135° for d

2-A) $A = \frac{9 \times 12}{2} = \frac{108}{2} = 54$ 2-B) $A = \frac{6 \times 3}{2} = \frac{18}{2} = 9$

3-A) easy way: diagonals of a square are equal: if b = 10.8, then a = 10.8
hard way: pythagorean: $a^2 = C^2 + D^2$: $a^2 = 6^2 + 9^2 = a^2 = 36 + 81 = 117$
$a = \sqrt{117} = 10.8$

3-B) The triangle is equilateral because it is equiangular:
CB is equal to the diameter of the circle:
diameter is r X 2: r = 10, so diameter is 20; CB = 20

4-A) $C^2 = 7^2 + 4^2 = 49 + 16$: $C^2 = 65$: $C = \sqrt{65}$: $C = 8.06$

4-B) $C^2 = 9^2 + 9^2 = 81 + 81$: $C^2 = 162$: $C = \sqrt{162}$: $C = 12.73$

4-C) $A^2 = 11^2 - 4^2 = 121 - 16$: $A^2 = 105$: $A = \sqrt{105}$: $A = 10.25$

4-D) $B^2 = 14.14^2 - 10^2 = 199.95 - 100$: $B^2 = 99.94$: $B = \sqrt{99.94}$: $B = 9.997$

page 172 (tree problem)

$\frac{1 \text{ yard}}{1\frac{1}{2} \text{ yd.}} = \frac{?}{22}$: cross multiply: $1\frac{1}{2}$? = 22 : divide both sides by $1\frac{1}{2}$ $(\frac{3}{2})$:
$? = 22 \div \frac{3}{2} = 22 \times \frac{2}{3} = 14\frac{2}{3}$ yds.

(OR) $\frac{1}{1.5} = \frac{?}{22}$: cross multiply : 1.5 ? = 22 : divide both by 1.5 : ? = 14.667

pages 174-175

4) refer to sheet from page 158, Chapter 12 for square root problems.

5) A) CW = Z ; subtract C from both : W = Z - C

B) $C = \pi D$; divide both by π : $D = \frac{C}{\pi}$

C) I = PRT : divide both by PT : $R = \frac{I}{PT}$

D) $V = \pi r^2 1$: divide both by πr^2 : $1 = \frac{V}{\pi r^2}$

6) A) Area of figure A = sum of triangle and square: $A = \frac{bh}{2} + s^2$

$$A = \frac{30}{2} + 36 \; : \; A = 15 + 36 = 51$$

B) If move triangle to right side of figure, it forms rectangle with length of 7
Then: A = 1 X w = 1=7 X 15 = 105

7) Todd = $\frac{6}{8}$ son = $\frac{4}{X}$: $\frac{6}{8} = \frac{4}{X}$: cross multiply: 6X = 32: divide by 6 : son = $5\frac{1}{3}$ ft.

$5\frac{1}{3}$ ft is same as 5 ft. 4 in.

8) each window is 3 by 3: problem is 4 windows X (3 X 3) = (4)(9) = 36 sq. ft.

CHAPTER 14

page 179

7) 1 sq. yd. = 36 in X 36 in. = 1296 sq. in. per sq. yd.
each square is 9 X 9, or 81 sq. in. : divide 1296 by 81 , get 16 quilt patches

8) add three month amounts and multiply by .05 ; 2099 X .05 = $104.95

9) change quarts to pints: 2 pints = 1 qt. so 2 X 14 = 28 pints total
divide 28 by 4 people: get 7 pints each: convert to quarts and pints by dividing 7 by 2 : get 3 qts. & 1 pint per person

10) cubic measure = length X width X height : 1 foot = 12 inches: 12 X 12 X 12 = 1728 cu.i

page 181

1-A) $\frac{5280}{1} = \frac{X}{3}$: cross multiply: X = 15,840 feet in 3 miles

1-B) $\frac{1}{4} = \frac{X}{82}$: 4X = 82 : divide by 4, get 82 quarts = 20½ gallons

1-C) $\frac{16}{1} = \frac{X}{13}$: X = (16)(13) = 208 ounces in 13 pounds

1-D) $\frac{60}{1} = \frac{X}{7}$: X = (60)(7) = 420 minutes in 7 hours

2) 300 feet = 100 yards: 100 - 16 = 84 yards: 84 multiplied by 3 gives 252 feet

page 184

1-A) 1,000,000 X (6.944×10^{-3}) = 1,000,000 X .006944) = 6944 sq.ft.
(OR): 1,000,000 = 10^6 : add exponents, $10^6 + 10^{-3} = 10^3$: $10^3 \times 6.944$ = 6944 sq. ft.

1-B) 1000 watts = 10^3 watts. $10^3 + 10^{-3} = 1$: 1 X 1.341 = 1.341 horsepower

1-C) (NOTE: BOOK HAS WRONG ANSWER) Formula is:

$$\text{Watts} = \frac{\text{horsepower}}{1.341 \times 10^{-3}} \; : \; \text{watts} = \frac{1}{.001341} = 745.71 \text{ watts in 1 horsepower}$$

page 185-186

3-A) $2Q + 7 = 25 - 6$: subtract 7 from both: $2Q = 25 - 6 - 7$: $2Q = 12$: $Q = 6$

3-B) $3ab + 6 = 20 - 2$: subtract 6 from both: $3ab = 12$: $ab = 4$

3-C) $B^2 - 60 = \sqrt{16}$: add 60 to both: $B^2 = \sqrt{16} + 60$: $B^2 = 4 + 60$: $B^2 = 64$; $B = 8$

3-D) $X + 6 = 2$: subtract 6 from both: $X = -4$

4-A) $C + Z = Q$: subtract C from both : $Z = Q - C$

4-B) $\frac{G}{P} = S$: multiply both by P : $G = PS$: divide both by S : $\frac{G}{S} = P$

4-C) $A = \frac{B}{2} \cdot H$: same as $A = \frac{BH}{2}$: multiply both by 2 : $2A = BH$: divide by H : $\frac{2A}{H} = B$

4-D) $X + \sqrt{W} = T$: subtract X from both: $\sqrt{W} = T - X$: square both: $W = (T-X)^2$

5-A) $A = \frac{BH}{2}$ $A = \frac{42}{2}$: $A = 21$

5-B) A = LW : 2 ways to do this one: a) extend extreme left upright line, bring top line to extreme left to connect with left upright forming a rectangle: That makes left upright = 6 + 4, and top line 8 + 4: LW = 10 X 12 = 120; Now, small rectangle you formed is 8 X 4 = 32::subtract : 120 - 32 = 88

b) extend top line (8) to right upright (adds 4 to 8). You have formed a rectangle of 6 by 12, and a square of 4 by 4 : add two areas: (6 X 12) + (4 X 4) = 72 + 16 = 88

6) room = 9 ft. by 12 ft. : A = LW = 108 sq. ft. to find yds. divide by 9 as there are 9 sq. ft. per sq. yd. Get 12 sq. yds. X $16 = $192.00 for carpet.

(OR) first convert feet to yards: 9 ft. = 3 yds., 12 ft. = 4 yds. 3 X 4 = 12 sq. yd

7) 4 qts. = 1 gallon: so at $1.20 qt. multiply by 4 to get per gallon cost : $4.80 $4.80 times 6 gallons = $28.80

(or) convert 6 gallons to qts.: 6 X 4 = 24: 24 X $1.20 = $28.80

8) 3 ft. = 1 yd.: 38¢ X 3 = cost per yd. = $1.14: $1.14 X 4 yds. = $4.56

(OR) convert 4 yds. to ft. (4 X 3 = 12): 12 X 38¢ = $4.56

9) each long board is 10 ft., so can get 2 pieces 4 ft. 7 in. from each: 2 pieces 4 ft 7 in total 8 ft 14 in = 9 ft 2 in, which leaves 10 inches per board. But, he only needs 7 so there will be three pieces 10 inches and the fourth will have 5 ft 5 in left which is not "scrap".

10) $1.20 per ft. = 10¢ per inch: 7 cuts at $\frac{1}{8}$ in. = $\frac{7}{8}$ in. X 10¢ : $\frac{7}{8} \times \frac{.10}{1} = \frac{.35}{4} = 8\frac{3}{4}$ ¢

CHAPTER 15 (THE "JAMES")

pages 190 - 193

1) A = $\frac{O}{2}$; P = 18¢ ; L = A + P :: A = apple, P = pear, L = lemon

A) 34 = $\frac{O}{2}$ + 18 : subtract 18 from both: 34 - 18 = $\frac{O}{2}$: multiply both by 2: O = 32¢

B) A = 28¢ : L = A + P ; L = 28 + 18 = 46¢

C) O = 30¢ : L = $\frac{O}{2}$ + 18 : L = $\frac{30}{2}$ + 18 : L = 15 + 18 = 33¢

D) A = 28¢ : 6 O + 6 L = ?
A = $\frac{O}{2}$: 28 = $\frac{O}{2}$: multiply both by 2: O = 56¢: 6 O = 6 X 56¢ = $3.36
L = A + P : L = 28 + 18 : L = 46¢ : 6 L = 6 X 46¢ = $2.76: 6 O + 6 L = $6.12
(you could also use: 6(56¢ + 46¢) = 6($1.02) = $6.12)

2) Sue = Sister - 1 $\frac{1}{2}$: Brother = $\frac{\text{Mother}}{2}$: Father = Mother + 2

A) F = 58 M = F - 2
B = ? M = 58 - 2 = 56
B = $\frac{M}{2}$ B = $\frac{56}{2}$ = 28 Brother

B) M = 24 To get M when S was born : M - 1½
Sue = 0 (just born) 24 - 1½ = 22½
Sue = S - 1½

C) B = S + 3
subtract 3 from both sides
S = B - 3
Sue = S - 1½
add - 3 (sister/brother difference) and -1½ (Sue/sister difference) = -4½
Sue is 4½ years younger than Brother : formula is : Sue = B - 4½

D) When F = 64 he will be Sue X 2
Sue will be $\frac{64}{2}$ = 32
Sister = Sue + 1½ : 32 + 1½ = 33½ for sister when Father is 64.

3) P of △ = 66 in.; a = (b - 8); c = (a - 2); b = b ; a + b + c = 66

Step 1) in c = (a - 2) substitute (b - 8) for a : c = (b - 8) - 2 : c = b - 10
Now: for a + b + c we sub: (b - 8) + (b) + (b - 10) = P : add together
3b - 18 = 66 : add 18 to each : 3b = 84
divide by 3 : b = 28 in.

Step 2) a = b - 8 : a = 28 - 8 : a = 20 in.

Step 3) c = a - 2 : c = 20 - 2 : c = 18 in.

Step 4) check: a + b + c = 66 : 20 + 28 + 18 = 66 (O.K.)

4) Bill = 4 days: if both work at this rate, take 2 days
Todd = 6 days: if both work at this rate, take 3 days : answer between 2 & 3

$$\frac{2}{\frac{2\text{ people}}{4\text{ days}} + \frac{2\text{ people}}{6\text{ days}}} = \frac{2}{\frac{2}{4} + \frac{2}{6}} = \frac{2}{\frac{6}{12} + \frac{4}{12}} = \frac{2}{\frac{10}{12}} = 2 \times \frac{12}{10} = \frac{24}{10} = 2\frac{2}{5}\text{ days}$$

5-A) $V = LWH$: $V = (6)(2)(2) = 24$ cu. ft.

5-B) $V = \frac{LWH}{2}$: $V = \frac{(3)(5)(7)}{2} = \frac{105}{2} = 52.5$ cu. in.

5-C) V = V of large figure - V of the hole:
$V = (8)(8)(8) - (4)(4)(8)$: $V = 512 - 128$: $V = 384$ cu. ft.

5-D) Two ways for this one: a) find V of two triangular shapes and add:

$$V = \frac{(6)(6)(12) + (6)(6)(6)}{2} = \frac{432 + 216}{2} = 324\text{ cu. ft.}$$

b) Extend right triangular figue upward to form rectangle
Find V of rectangle and multiply by $\frac{3}{4}$ (actual figure)

$$V = (12)(6)(6)\left(\frac{3}{4}\right) = 432 \times \frac{3}{4} = 324\text{ cu. ft.}$$

6) a = short side
b = long side
$b = 2a$
Area = 8 $yd.^2$

Area = $(a)(b)$
Area = $(a)(2a)$
Area = $2a^2$
$8\ yd^2 = 2a^2$
divide by 2
$4 = a^2$
$\underline{a = 2}$ yd
$\underline{b = 2a}$
$\underline{b = 4}$ yd

Perimeter = $2a + 2b$
$P = (2)(2) + (2)(4)$
$P = 4 + 8$
$\underline{P = 12\text{ yds}}$.

8) 640 acres = 1 sq. mile
1 sq. mile = 5280 ft. squared
1 sq. mile = 27,878,400 sq. ft.
divide by 640 = 43,560 sq. ft in an acre

9) $\frac{1000\text{ Watts}}{40\text{ Watts}} = 25$ hours to cost 5¢ : use proportions: 25 is to 5¢ as ? is to \$1.00

$\frac{25}{.05} = \frac{?}{1.00}$: cross multiply: .05 ? = 25.00 : divide by .05 = 500 hours

10) Common sense ! from last page I to first page II go through 2 covers: $(2)\left(\frac{1}{8}\right) = \frac{1}{4}$ in

pages 198 -199

1) $A = LW$: $A = (100 + 10 + 10)(55) = (120)(55) = 6600$ sq. yds.

2) $V = \pi r^2 L$: $V = (3.14)(2 \times 2)(8) = (3.14)(32) = 100.48$ cu. in.

3) $A = 3.14 \times r^2$: $A = 3.14 \times 25$: $A = 78.5$ sq. ft.

$r = \frac{d}{2} = 5$ 78.5 sq. ft. X 9 plants per = 706.5 plants (round to 707 plants)

707 plants ÷ 12 = 58.88 dozen plants (probably need to buy 59 doz)

59 doz. X \$1.50 = \$88.50

4) $C = \pi d$

d = 10 ft (120 in)

$C = 3.14 \times 120$

C = 376.8 inches (377)

377 ÷ 4 inches per plant = $94\frac{1}{4}$ plants per bed

$94\frac{1}{4}$ X 6 beds = $565\frac{1}{2}$ plants

cost \$30 per hundred : 5.655 X 30 = \$169.65 (BUT...

since sell by 100's would need to buy 600: 600 X \$30 per hundred = \$180

5) $V = LWH$

$V = (30)(2)(4)$: = 240 cu. ft.

Need to change to Cu. yds. : 1 cu. yd. = 27 cu. ft.

$V = \frac{240}{27} = 8.88$ cu. yds. (would probably need to buy 9 cu. yds.)

6) $V = \pi r^2 L$

$r = \frac{d}{2} = \frac{5.25}{2} = 2.625$

$V = 3.14 \times (2.625 \times 2.625) \times 5$

$V = 3.14 \times 6.89 \times 5$

V = 108.173 cu. in.

231 cu. in. = 1 gallon

$\frac{108.173}{231} = .468$ gallon (almost half-gallon)

7) $A = LW$: $2,592 = 72W$: divide by 72 : $W = 36$ feet

8) $V = \pi r^2 L$

$760.27 = 3.14 \times r^2 \times 8$

$760.27 = 25.12 r^2$

divide both by 25.12

$r^2 = 30.27$

r = 5.5 feet

$d = 2r$: $d = (2)(5.5)$: d = 11 feet

pages 202-203

1) $X = (7200) - (2250) - (850)$

X = \$4100

2) $7^3 = (7)(7)(7) = 343$

1.63×10^4 = move decimal 4 places to right = 16300

3^6 = multiply 3 X 3 six times : or : $(3^2)(3^2)(3^2)$: or : $(3^3)(3^3) = 729$

2.6×10^{-2} = move decimal 2 places to the left = .026

3-A) The figure is divided into 8 parts: find Area of shaded part(s)

Formula for this figure: $A = \frac{\pi r^2}{8} = A = \frac{3.14 \times 25}{8} = \frac{78.5}{8} = 9.8$ sq. in.

3-B) $A = \frac{LW}{4} = A = \frac{(2)(2)}{4} = \frac{4}{4} = 1$ sq. ft.

3-C) A of triangle is needed here: The height of the triangle is = ½ of the height of the rectangle: $A = \frac{(5)(2)}{2} = \frac{10}{2} = 5$ sq. ft.

You could also use A of rectangle and divide by 4 : $\frac{(5)(4)}{4} = 5$ sq. ft.

3-D) $A = \frac{LW}{9} \times 5$(shaded parts) $= \frac{9}{9} \times 5 = 1 \times 5 = 5$ sq. ft.

(OR): Looking at figure can see each shaded square is 1 ft. by 1 ft. = 1 sq. ft
There are five shades parts, so multiply 1 X 5 = 5 sq. ft.

4) $\frac{88}{60} = \frac{?}{55}$: cross multiply : 60 ? = 4840 : divide by 60, ? = 80.7 ft.

5) a) $\frac{.99}{4} = .24\frac{3}{4}$ per pound b) $\frac{1.50}{6} = .25$ per pound : So, (a) is better buy

6) X = regular price: X = (22)(2) + 5 : X = \$49.00

7) $\frac{1.2 \text{ imperial Gal.}}{1 \text{ U.S. gallon}} = \frac{X}{\$1.40}$: cross multiply: X = 1.40 X 1.2 = \$1.68

8) 12 ft = 4 yds. A = LW = A = (4)(4) = 16 sq. yds carpet X \$14 = \$224.00

9) $\frac{X}{30} = \frac{5}{8\frac{1}{3}}$: cross multiply: $8\frac{1}{3}X = 150$: divide by $8\frac{1}{3}$: $X = \frac{150}{8\frac{1}{3}} =$

$150 \times \frac{3}{25} = 18$ ft. high

10) cup + 3 bowls = \$11
bowl + 3 cups = \$ 9
4 bowls = \$ X

A) c = 11 - 3b : substitute for c in second equation
b + 3(11 - 3b) = 9
b + 33 - 9b = 9
b - 9b = 9 - 33
- 8b = - 24
multiply both by -1 = 8b = 24 : divide by 8 : bowl = \$3

B) substitute for (b) in first equation: c + (3)(3) = 11
this is to check for balance: c = 11 - 9
c = \$2

C) substitute for (b) and (c) in both first and second equations:
2 + (3)(3) = 11 3 + (3)(2) = 9
2 + 9 = 11 (O.K.) 3 + 6 = 9 (O.K.)

Therefore: 4 bowls @ \$3 = \$12.00